



UTM
UNIVERSITI TEKNOLOGI MALAYSIA

CURRICULUM VITAE



PERSONAL DETAILS

Name : Zaitul Marlizawati Binti Zainuddin
Gender : Female
Date of Birth : 13th November 1973
Nationality : Malaysian
Marital Status : Married
Permanent Address : 90, Jalan Pulai Perdana 8/3, Taman Sri Pulai Perdana, 81110 Johor Bahru, Johor.
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Website : <http://science.utm.my/Zaitul/>
Staff ID : 7152
Scopus ID : 15758428500
Researcher ID : D-8462-2018
Expertise : Operational Research, Optimization, Heuristic Methods

ACADEMIC QUALIFICATIONS

Year 2004 : Ph.D. in Mathematics and Statistics
University of Birmingham, United Kingdom.

Year 1999 : M.Sc. in Operational Research and Applied Statistics
Salford University, United Kingdom.

Year 1996 : B.Sc. in Mathematics
University of Southampton, United Kingdom.

AWARDS AND HONORS RECEIVED

Awards/Achievement

- (1) CORAS (Centre of Operational Research and Applied Statistics) PRIZE, Salford University for the best student performance in the taught course for M.Sc. Program, 1998
- (2) Excellence Service Award, Universiti Teknologi Malaysia, 2005
- (3) UTM Sport Netball Runner-up, 2005
- (4) Excellence Service Award, Faculty of Science, UTM, 2006
- (5) UTMSPACE Excellence Lecturer Award (Non-Engineering), UTM, 2008
- (6) Excellence Service Award, Universiti Teknologi Malaysia, 2009
- (7) Excellence Service Award, Academic Advisor, Faculty of Science, UTM, 2011
- (8) Excellence Service Award, Faculty of Science, UTM, 2012
- (9) Excellence Service Award, Faculty of Science, UTM, 2015
- (10) Excellence Service Award, Universiti Teknologi Malaysia, 2016
- (11) Anugerah Penyelidikan dan Perundingan, Faculty of Science, UTM, 2017
- (12) Excellence Service Award, Faculty of Science, UTM, 2017
- (13) Active Blended Learning Course, SSCM4813 Optimal Control, Sem 2 2017/2018

PROFESSIONAL MEMBERSHIP / RECOGNITION

Positions/Employer

- (1) 1996 - 1999 : Tutor at Faculty of Science, UTM Johor Bahru
- (2) 1999 – Mar 2009 : Lecturer at Dept. of Mathematical Sciences, Fac. of Science, UTM
- (3) Mar 2009 – Present : Senior Lecturer at Dept. of Math. Sciences, Fac. of Science, UTM
- (4) Jan 2013 – Jan 2015 : Fellow at UTM Centre for Industrial & Applied Mathematics
- (5) Oct 2018 – Sept 2019 : Deputy Director UTM Centre for Industrial & Applied Mathematics

Membership

- (1) 2014 : Life Member of Management Science/Operations Research Society of Malaysia (MSORSM), Membership No: LMM 022
- (2) 2005 : Life Member of Malaysian Mathematical Sciences Society (PERSAMA), Membership No: ZS2005-1
- (3) 2016 – present : Member of The OR Society, Membership No : 020862

ADMINISTRATIVE EXPERIENCE

Faculty Level

(1)	1 May 2017 – 30 April 2020	Ketua Kumpulan Penyelidikan Research Group on Mathematical Optimization (RGMO)
(2)	1 Nov 2016 – 31 Dec 2017	Penyelaras Service Learning Fakulti Sains
(3)	1 Mac 2016- 31 Dec 2017	Penyelaras JK Latihan Industri Fakulti Sains
(4)	1 Jan 2016 - 31 Dec 2017	Ahli Jawatankuasa Pengurusan Jabatan Sains Matematik
(5)	1 Feb 2013 – 31 Dec 2015	Ketua Portfolio Network and Linkages UTM-CIAM
(6)	1 Jan 2010 – 31 Dec 2013	Pengerusi Jawatankuasa Latihan Industri Jabatan Sains Matematik
(7)	1 Jan 2010 – 31 Dec 2012	Ketua Panel Penyelidikan Operasi
(8)	2006 - 2007	Pengerusi Jawatankuasa Laporan Tahunan Jabatan Sains Matematik
(9)	Aug 2005 – Dec 2008	Penasihat Persatuan Sains dan Teknologi (PESAT), Fakulti Sains

(10)	24 Nov 2018	Ahli Panel Temuduga Program UTM Degree++ “How to Get Yourself Employed” Sem 1 2018/2019
(11)	1 Jan 2018 – 31 Dec 2018	Ahli Taskforce Pengukuhan & Penghayatan Matematik (P ² M) Fakulti Sains
(12)	1 Dec 2017 - Present	Ahli Taskforce 2u2i Jabatan Sains Matematik
(13)	17 Apr 2017 – 31 Dec 2017	Ahli Taskforce Audit SWA Akreditasi Program Pasca Siswazah Fakulti Sains
(14)	9 Mac 2017	Juri 3 Minute Thesis Competition Fakulti Sains
(15)	7 Feb 2017 -31 Dec 2017	Ahli Taskforce Kebolehpasaran Graduan Industry Centre of Excellence (ICOE) Fakulti Sains
(16)	1 Nov 2016 - Present	Ahli Taskforce Program UTM-KENT
(17)	1 Sept 2016 – 31 Dec 2017	Ahli Taskforce Pemasaran & Kebolehpkerjaan Pelajar Fakulti Sains
(18)	22 Aug 2016 – Aug 2020	Penasihat Akademik Sesi 2016/2017
(19)	1 Feb 2016 – 30 Jun 2016	Ahli Taskforce Analisis Pengoptimuman Pengambilan Staf Kontrak Fakulti Sains
(20)	15 Feb 2016 – 30 Jun 2016	Ahli Taskforce Audit Anugerah Kualiti Akademik Fakulti Sains

(21)	1 Jan 2016 -31 Aug 2017 4 Aug 2011 – 31 Dec 2011	Ahli Jawatankuasa Pembangunan Pelajar Jabatan Sains Matematik
(22)	1 Jul 2013 -31 Dec 2015	Mentor Perkembangan Penulisan Tesis PhD
(23)	19Dec 2012 – 19 Dec 2014 1 Jan 2010 - 30 Sept 2011 2007	Ahli Jawatankuasa Latihan Industri Fakulti Sains
(24)	20Sept 2012–31 Dec 2012	Ahli Jawatankuasa Pelaksana UTM-OXFORD Pusat Matematik Industri & Kejuruteraan
(25)	20 Apr 2012 – 31 Dec 2013	Ahli Jawatankuasa Kursus Matematik untuk Program Kejuruteraan

(25)	1 Jan 2012 – 31 Dec 2013	Ahli Jawatankuasa Projek Sarjana Muda Jabatan Sains Matematik
(26)	8 Jul 2010 – 31 Dec 2011 13Mac 2009 – 31Dec 2010	Ahli Jawatankuasa Alumni Jabatan Sains Matematik
(27)	28 Jun 2010 – 28 Jun 2014	Penasihat Akademik Sesi 2010/2011
(28)	28 Apr 2010 – 31 Dec 2013	Ahli Jawatankuasa Kurikulum Jabatan Sains Matematik
(29)	24 Mac 2010 – 31 Jul 2010 2005, 2000, 1996	Ahli Jawatankuasa Ahli Keluarga Jabatan Sains Matematik
(30)	1 Jan 2010 – 31 Dec 2013	Timbalan Pengerusi Jawatankuasa Hubungan Industri Jabatan Sains Matematik
(31)	1 Jan 2010 – 31 Dec 2013	Ahli Jawatankuasa Pengurusan dan Akademik Jabatan Matematik
(32)	1 Jan 2010 – 31 Dec 2011	Ahli Jawatankuasa Pembangunan Jabatan Sains Matematik
(33)	13 Mac 2009 – 31 Dec 2010	Ahli Jawatankuasa Kebolehpasaran dan Degree ++ Jabatan Sains Matematik
(34)	2008 - 31 Dec 2013	Ahli Jawatankuasa Pengajian Siswazah Jabatan Sains Matematik
(35)	2007 -2008	Setiausaha Jawatankuasa Pengajian Siswazah Jabatan Sains Matematik
(36)	2007 -2009	Ahli Jawatankuasa Latihan Industri Jabatan Sains Matematik
(37)	2006 -2008	Ahli Jawatankuasa Penyelidikan Jabatan Matematik
(38)	2005	Ahli Jawatankuasa Operasi Linux
(39)	2005 - 2010 1999 - 2000	Sidang Redaksi Forum Matematik, Jabatan Matematik
(40)	2004	Setiausaha Jawatankuasa Justifikasi Program M.Sc. Matematik Kejuruteraan
(41)	1999	Ahli Jawatankuasa Hari Keluarga Fakulti Sains
(42)	1999 – 2000	Ahli Jawatankuasa Pengkomputeran Jabatan Matematik
(43)	1999 - 2000	Ahli Jawatankuasa Kurikulum untuk Statistik dan Penyelidikan Operasi
(44)	1998 -2000	Setiausaha Industrial Survey Research and Data Analysis Group

University Level

(1)	1 Jan 2018 - Present	Ahli Taskforce Semakan Semula Garis Panduan Latihan Industri
(2)	1 Jan 2017 – 25 May 2017	Mentor Kursus Penyeliaan AS 103
(3)	6 Dec 2016	Fasilitator Review Paper Writing Workshop
(4)	31 Jul 2016 – 31 Jul 2017	Ahli Projek Penyelidikan Pengangkutan Bas UTM
(5)	14 Apr 2014	Panel Penilai Teknikal Penilaian Proposal GUP Tier 1, Tier 2E & PAS
(6)	10 Sept 2012	Panel Penilai Teknikal Geran Universiti Penyelidikan 2013
(7)	25 Apr 2012	Panel Penilai Teknikal Geran Universiti Penyelidikan Cycle 2/2011
(8)	28 Oct 2008 – 31 Dec 2017	Ahli Taskforce CTPS Assessment
(9)	2009	Reviewer Monograph UTM

NATIONAL COMMITTEE

(1)	19 Feb 2018	External Reviewer of Journal of Advanced Manufacturing Technology (JAMT) Special Edition 2018
(2)	17 Dec 2017	Reviewer eProceeding Chemistry 2 2017
(3)	15 Nov 2017 – 31 Dec 2018	Pegawai Pembangunan Teknologi MyHIMS Solution
(4)	1 Aug 2017 – 2 Aug 2017	Moderator Malaysian Mathematics in Industry Workshop (MMIW 2017)
(5)	1 Jan 2017 – 19 Dec 2017	Sekretariat Jawatankuasa PRO-TEM MyHIMS
(6)	31 Jul 2016 – 31 Dec 2016	Ahli Projek Penyelidikan Pemaksimuman Keuntungan Jualan Produk Ayam Proses PPNJ
(7)	14 Jul 2016 – 30 Sept 2016	Ahli Taskforce Kolokium Kebangsaan Pendidik Sains, Teknologi, Kejuruteraan & Matematik (KKPSTEM)
(8)	1 Dec 2015 – 30 Nov 2020	Pegawai Pelaksana Jaringan MOU UTM- MARDI
(9)	13 Oct 2015 – 11 Nov 2015	Pengerusi Malaysia Industrial Mathematical Modelling Challenge (MIMMC 2015)
(10)	29 Jul 2015	Facilitator Demand-Driven Innovation Projects Workshop
(11)	23 Mac 2015 – 31 Dec 2015	Bendahari Program Kebolehpasaran Graduan Sains, Teknologi, Kejuruteraan Dan Matematik (STEM)

(12)	4 Nov 2014 – 10 April 2015	Treasurer 3rd Mathematics in Industry Study Group (MISG 2015)
(13)	13 Oct 2014 – 12 Oct 2017	Pegawai Pelaksana Jaringan MOU UTM-Medical School, USM & HUSM
(14)	30 Oct. 2014 – 31 Dec 2018	Editor MATEMATIKA
(15)	4 Jan 2014 – 31 Mac 2014	Treasurer 2nd Mathematics in Industry Study Group (MISG 2014)
(16)	9 Jan 2014 – 31 Mac 2014 2010, 2011	Reviewer MATEMATIKA
(17)	19 Dec 2011 – 31 Dec 2011	Reviewer Jurnal Teknologi
(18)	2010 - 2011	Technical Committee Malaysian Mathematics in Industry Study Group (MISG 2011).
(19)	2006	Reviewer Annual Fundamental Science Seminar (AFSS 2006)
(20)	1999	Reviewer Ensiklopedia Sains & Teknologi, DBP

INTERNATIONAL APPOINTMENT/COMMITTEE

(1)	11 Jan 2018 - Present	Ahli Jawatankuasa Kecil Penerbitan dan Penilaian Kertas Kerja 3 rd International Conference on Mathematics, Engineering & Industrial Applications 2018 (ICoMEIA 2018)
(2)	1 Aug 2017 – 2 Aug 2017	Organising Committee International Seminar on Mathematics in Industry
(3)	1 Jan 2016 – 30 Jun 2016	Editor AIP Proceeding for SKSM 23
(4)	24 Feb 2015 – 26 Feb 2015	Evaluator in 3 rd International Science Postgraduate Conference 2015 (ISPC 2015)
(5)	30 Jul 2014 – 30 Jul 2019	Pegawai Pelaksana Jaringan MOU UTM - Coimbra University
(6)	27 Nov 2013 – 28 Nov 2013	Treasurer International Seminar on Mathematics in Industry 2013
(7)	13 Nov 2013 – 27 Nov 2013	Reviewer for ICOWOBAS-RAFSS 2013
(8)	3 Sept 2013 – 5 Sept 2013	Pengerusi Sesi ICOWOBAS-RAFSS 2013
(9)	18 Sept 2013 – 30 Dec 2013	Manuscript Review Committee. ICOWOBAS-RAFSS 2013
(10)	2013	Reviewer for Statistics and Operational Research International Conference (SORIC2013), American Institute of Physics (AIP) Proceedings

(11)	23 Jul 2012 – 6 Sept 2012	Organizing Committee. The First ISM International Conference On Statistics In Science And Engineering (ISM-I)
(12)	7 Dec 2011 – 31 May 2012	Reviewer 2nd Regional Conference on Applied and Engineering Mathematics 2012.
(13)	9 Aug 2011 – 30 Apr 2012	Secretary Regional Conference In Engineering Education (RCEE) & Research In Higher Education (RHed) 2012
(14)	1 May 2011 – 9 Nov 2012	Technical Committee International Conference on Water Resources 2012 (ICWR 2012)
(15)	2009	Reviewer for International Journal of Computers and Applications
(16)	2007	Organizing Committee ICOMS2007
(17)	2007	Technical Committee Regional Conference on Engineering Education 2007 (RCEE 2007)
(18)	2007	Reviewer for ICOMS2007 Proceeding
(19)	2007	Reviewer for European Journal of Operational Research
(20)	2006	Reviewer for International Journal of Operations Research

RESEARCH ACTIVITIES

OTHERS

(1)	1 Sept 2006 – June 2011	Project Leader	Automated Facility Layout Design (INTEL Corporation). Vol. No. 73325 (R.J130000.7326.3B006). Budget approved RM227,886.57
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FUNDAMENTAL RESEARCH GRANT SCHEME (FRGS FUND)

(1)	1 Apr 2015 – 30 Mar 2016	Project Member	A coupled hydrologic-hydraulics model to simulate the flood extents and dept in Kelantan River Basin. Vot No. R.J130000.7822.4F683. Budget approved RM58,200.00
(2)	1 Jul 2014 – 30 Jun 2016	Project Leader	Integrated Model for Continuous Berth Allocation Problem and Quay Crane Scheduling with Non-crossing Contrait. Vot No. R.J130000.7809.4F470. Budget approved RM74,000
(3)	1 Apr 2013 – 30Sept 2015	Project Member	Development of Models For The Optimal Urban Planning Based on Geographical and Land Price Characteristics. Vot No. R.J130000.7826.4F181. Budget approved RM70,000.00
(4)	16 Apr 2012 – 15 Oct 2014	Project Member	Mathematical Modeling of Tumor Cells Growth by Fuzzy-Time Delay Differential Equations. Vot No. R.J130000.7826.4F127. Budget approved RM98,800.00
(5)	1 Jan 2007 – 31 Dec 2009	Project Leader	Capacitated Multisource Weber Problem with Zone-Dependent Fixed Cost. Vot. No. 78083 (R.J130000.7826.3F082). Budget approved RM37,300.00

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(1)	1 Apr 2018 – 31 Mar 2021	Project Leader	Strategic Mathematical Algorithm for Automated Crude Palm Oil Futures (FCPO) Trading Sysytem.Vot No. Q.J130000.2409.04G43. Budget approved RM50,000
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COE RESEARCH GRANT

(1)	1 Feb 2018 – 31 Jan 2020	Project Member	Airport Delays Prediction Using Weather Impact Index.Vot No. Q.J130000.2409.03G96. Budget approved RM50,000
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RESEARCH UNIVERSITY GRANT SCHEME (GUP Tier 1 & 2)

(1)	1 Feb 2018 – 31 Jan 2019	Project Leader	Differential Evolution Algorithm for Solving Integrated Sequencing and Line Balancing Problems of Mixed-model Two-sided Assembly Line. Vot No. Q.J130000.2526.18H41. Budget approved RM50,000
(2)	1 Feb 2018 – 31 Jan 2019	Project Member	Forest Growth Model-Based Selective Cutting for Timber Harvest Planning in Peninsular Malaysia. Vot No. Q.J130000.2526.20H16. Budget approved RM50,000
(3)	1 Feb 2018 – 31 Jan 2019	Project Member	Simultaneous Water and Energy Minimization Considering Water Management Hierarchy. Vot No. Q.J130000.2626.15J58. Budget approved RM20,000
(4)	1 Jul 2017 – 30 Jun 2019	Project Member	Improvement of Attendance System by Incorporating Mathematical Logic. Vot No. Q.J130000.2526.16H11. Budget approved RM40,000

(5)	1 Jul 2017 – 30 Jun 2019	Project Member	Mixed Integer Linear Programming and Graph Coloring Method for University Course and Examination Timetabling Problem. Vot No. Q.J130000.2526.16H20. Budget approved RM40,000
(6)	1 Oct 2016 – 30 Sept 2017	Project Member	Simultaneously Solving Line Balancing and Models Sequencing Problems for Mixed-model Two Sided Assembly Line using Meta-heuristics. Vot No. Q.J130000.2626.12J73. Budget approved RM20,000
(7)	1 Oct 2016 – 31 Dec 2017	Project Member	Hybrid PV/ Wind Turbine/ Battery System towards Net Zero Energy Building using Genetic Algorithm. Vot No. Q.J130000.2626.11J90. Budget approved RM20,000
(8)	1 July 2016 – 20 Oct 2017	Project Leader	Queing Analysis and Optimization in Healthcare Operation. Vot No. Q.J130000.2526.14H11. Budget approved RM50,000
(9)	1 Feb 2016 – 31 Jan 2018	Project Member	Non-stationary Return Periods of Floods in the East Coast of Peninsular Malaysia due to Climate Change. Vot No. Q.J130000.2522.13H07. Budget approved RM50,000
(10)	1 Sept 2015 – 30 Nov 2016	Project Member	Bivariate Frequency Analysis of Flood Variables Using Copula in Kelantan River Basin. Vot No. Q.J130000.2622.11J39. Budget approved RM20,000.00
(11)	1 Dec 2012 – 31 Dec 2013	Project Member	Online Scheduling in Parallel Processor System. Vot No. Q.J130000.2626.08J11. Budget approved RM32,000
(12)	1 Apr 2011 – 31 Mar 2013	Project Member	Sequential Monte Carlo Methods for Parameter Estimation in Non-linear Non-Gaussian State-space Models with Applications to Biomedical Signal Processing. Vot No. Q.J130000.2536.00H77. Budget approved RM170,000

FLAGSHIP GRANT

(1)	1 May 2016 – 31 Oct 2017	Project Leader	CTPS Skills among Malaysian Graduates: UTM Case Study. Vot No. Q.J130000.2426.03G49. Budget approved RM20,000
(2)	1 May 2016 – 31 Oct 2017	Project Member	Modelling: Mathematical Innovation Led Economy. Vot No. Q.J130000.2426.03G53. Budget approved RM20,000
(3)	1 Mar 2015 – 31 May 2016	Project Leader	Green Sustainable Technology - Bioconservation of Giant Clam. Vot No. Q.J130000.2409.03G16. Budget approved RM47,000
(4)	1 Apr 2014 – 30 Jun 2015	Project Leader	Cost – effectiveness Analysis of the Drug Therapy Administered on Ischaemic Stroke Patient. Vot No Q.J130000.2409.01G95. Budget approved RM87,600
(5)	1 Apr 2013 – 31 Mar 2014	Project Leader	Airlines On-time Performance through Integrated Aircraft Routing and Crew Scheduling. Vot No. Q.J130000.2426.01G25. Budget approved RM70,500
(6)	1 Apr 2013 – 31 Mar 2015	Project Member	Conformal Mapping Software for Medical Image Processing using Integral Equations with Generalized Neumann Kernel. Vot No. Q.J130000.2426.01G11. Budget approved RM123,000.00
(7)	1 Apr 2013 – 31 Mar 2015	Project Member	Kautz graph characterization of multicolumn channels and switches for optimal channel assignments in cellular network systems. Vot No. Q.J130000.2426.01G14. Budget approved RM113,000.00
(8)	1 Apr 2013 – 31 Mar 2015	Project Member	Stochastic Model for Groundwater Transport Flow in Peninsular Malaysia. Vot No. Q.J130000.2426.01G22. Budget approved RM107,000.00
(9)	1 Apr 2013 – 30 Jun 2015	Project Member	Ecosystem Optimization Model for FRIM and MARDI Problems. Vot No. Q.J130000.2406.02G01. Budget approved RM87,600.00

(10)	1 Aug 2011 – 31 Jul 2014	Project Member	Non-Linear and Non-Gaussian State-Space Models for Time Series Analysis: Model Formulation and State Inference. Vot No. Q.J130000.2436.00G31. Budget approved RM250,400.00
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NETWORKING GRANT (NG)

(1)	1 Mar 2017 – 31 Dec 2017	Project Member	Kajian Tentang Minat Pelajar Sekolah Menengah Terhadap Topik Indeks Dan Logarithma. Vot No. S.J130000.026.4X282. Budget approved is RM2,000
(2)	1 Mar 2017 – 31 Dec 2017	Project Member	Mengkaji Keberkesanan Program Pengukuhan Matematik Tambahan Pelajar Tingkatan 4 (Pembezaan). Vot No. S.J130000.026.4X253. Budget approved RM2,500
(3)	3 Jul 2016 – 12 Nov 2016	Project Member	Kolokium Kebangsaan Pendidik Sains, Teknologi, Kejuruteraan Matematik (KKPSTEM) 2016 Peringkat Negeri Johor. Vot No. S.J130000.7326.4X199. Budget approved RM13,200

DEMAND-DRIVEN INNOVATION BY PUBLIC-PRIVATE RESEARCH NETWORK (Research Project Awarded by Ministry of Higher Education)

(1)	15 Feb 2015 – 14 Jan 2016	Project Member	Detection of VOC from Ganoderma Boninense. Vot No. R.J130000.7809.4L160. Budget approved RM30,000
(2)	15 Jan 2015 – 15 Oct 2015	Project Member	Modelling and Optimization of Product Related to Clay for Cleansing Method in Islam. Vot No. R.J130000.7809.4L151. Budget approved RM30,000

POTENTIAL ACADEMIC STAFF (PAS) GRANT

(1)	1 Sept 2014 – 31 Aug 2015	Project Member	The Application of Metaheuristic in Inventory Routing Problem. Vot No. Q.J130000.2726.01K28. Budget approved RM20,000
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CONSULTATION

(1)	1 Aug 2018 – 2 Aug 2018	Member	Organizer International on Mathematics in Industry 2017.	RM 81234.80
(2)	14 June 2017	Member	Jelajah Sains 1.0	RM 3000
(3)	9 Aug 2017 – 23 Sept 2017	Member	Organizer Program Rekreasi, Apresiasi & Pengukuhan Matematik, Jabatan Sains Matematik 2017	RM 4500
(4)	1 Nov 2016 – 2 Nov 2016	Member	Organizer Young Talent Consultancy Camp	RM 27500
(5)	29 Feb 2016 – 3 Mar 2016	Member	Organizer Program Viva Voce 2016	RM 6150
(6)	12 Nov 2016	Member	Organizer Kolokium Pendidik Stem 2016 Peringkat Negeri Johor	RM 13200
(7)	24 Nov 2015 – 26 Nov 2015	Member	Organizer Seminar Kebangsaan Sains Matematik ke 23 (SKSM23)	RM 168705.54
(8)	30 Mar 2015 – 2 Apr 2015	Member	Organizer Malaysia Mathematical Modelling Camp 2015 (MMMC 2015)	RM 32299.30
(9)	6 Apr 2015 – 10 Apr 2015	Member	Organizer Mathematics in Industry Study Group (MISG2015)	RM 82783
(10)	13 Oct 2015 -11 Nov 2015	Leader	Organizer Malaysia Industrial Mathematical Modelling Challenge (MIMMC 2015)	RM 14416

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- (1) Zaitul Marlizawati Zainuddin, Normah Maan, Yeak Su Hoe, Rasvini Rajendran, Modul Pengukuhan Matematik Tambahan – Indeks dan Logaritma, 9 Dec 2018, IP/CR/2018/0098
- (2) Muhammad Abd Hadi Bunyamin, Husni Hani Jameela Sapngi, Zaitul Marlizawati Zainuddin, Siti Aminah Setu (Sabtu), Zaiton Abdul Majid, Mohd Bakri Bakar, Soal Selidik Minat Kecenderungan Dan Persepsi Murid Terhadap Bidang Sains Teknologi Kejuruteraan Dan Matematik, IP/CR/2018/0610

(3) TEACHING EXPERIENCES**UNDERGRADUATE COURSES TAUGHT**

Session	Sem	Course Code	Course	Credit Hour	No of Sect
20172018	2	SSCM 4813	Optimal Control	3	1
20172018	2	SSCU 4904	Final Year Project 2	4	
20172018	1	SSCE 1693	Engineering Mathematics 1	3	1

20172018	1	SSCU 4902 /SSU 3922	Final Year Project 1	2	
20162017	2	SSCM 4813	Optimal Control	3	1
20162017	2	SSCU 4904	Final Year Project 2	4	
20162017	1	SSCU 4902 / SSU 3922	Final Year Project 1	2	
20162017	3	SSCU 3905 / SSU 2915	Industrial Training	5	
20162017	3	SSCU 3915	Research Training	5	
20152016	2	SSCU 4904 / SSU 3924	Final Year Project 2	4	
20152016	1	SSCU 4902 / SSU 3922	Final Year Project 1	2	

20142015	2	SSCU 4904 / SSU 3924	Final Year Project 2	4	
20142015	1	SSCU 4902 / SSU 3922	Final Year Project 1	2	
20122013	1	SSCE 1693	Engineering Mathematics 1	3	2
20112012	2	SSCU 4904 / SSU 3924	Final Year Project 2	4	
20112012	2	SSH 2833	Linear Programming	3	2
20112012	1	SSCU 4902 / SSU 3922	Final Year Project 1	2	
20112012	1	SSCE 1693	Engineering Mathematics 1	3	3
20102011	3	SSCU 3905 / SSU 2915	Industrial Training	5	
20102011	3	SSE 1793 / SSM 2532	Differential Equation	3	1
20102011	2	SSCU 4904 / SSU 3924	Final Year Project 2	4	
20102011	2	SSE 1793 / SSM 2532	Differential Equation	3	2
20102011	1	SSCU 4902 / SSU 3922	Final Year Project 1	2	
20102011	1	SSH 2813	Operational Research	3	2
20092010	2	SSCU 3905 / SSU 2915	Industrial Training	5	
20092010	2	SSCU 4904 / SSU 3924	Final Year Project 2	4	
20092010	2	SSE 1793 / SSM 2532	Differential Equation	3	1
20092010	1	SSE 1792	Calculus	2	2
20092010	1	SSH 2813	Operational Research	3	1
20092010	1	SSM3613 / SSH 2723	Operational Research 1	3	1
20092010	1	SSCU 4902 / SSU 3922	Final Year Project 1	2	
20082009	2	SSE 1793 / SSM 2532	Differential Equation	3	1
20082009	2	SSM3613 / SSH 2723	Operational Research 1	3	1
20082009	2	SSCU 4904 / SSU 3924	Final Year Project 2	4	
20082009	1	SSE 1792	Calculus	2	1
20082009	1	SSH 2813	Operational Research	3	1
20082009	1	SSCU 4902 / SSU 3922	Final Year Project 1	2	
20072008	2	SSE 1793 / SSM 2532	Differential Equation	3	1
20072008	2	SSM3613 / SSH 2723	Operational Research 1	3	1
20072008	2	SSCU 4904 / SSU 3924	Final Year Project 2	4	
20072008	1	SSH 2813	Operational Research	3	1
20072008	1	SSCU 4902 / SSU 3922	Final Year Project 1	2	
20062007	2	SSM 4623	Operational Research III	3	1
20062007	2	SSCU 4904 / SSU 3924	Final Year Project 2	4	
20062007	1	SSH 1113	Statistics I	3	2
20062007	1	SSCU 4902 / SSU 3922	Final Year Project 1	2	
20052006	2	SSCU 4904 / SSU 3924	Final Year Project 2	4	
20052006	2	SSM 4623	Operational Research III	3	1
20052006	1	SSM3613 / SSH 2723	Operational Research 1	3	2
20052006	1	SSM 4603	Operations Research II	3	1
20052006	1	SSCU 4902 / SSU 3922	Final Year Project 1	2	
20042005	2	SSM 4623	Operational Research III	3	1

20042005	2	SSH2723	Operational Research 1	3	1
20042005	2	SSCU 4904 / SSU 3924	Final Year Project 2	4	
20002001	1	SSM 1103	Matematik	3	2
20002001	1	DSM 1063	Matematik Asas	3	1
19992000	2	SSM1063	Matematik Asas	3	1
19992000	2	SSE 1793 / SSM 2532	Differential Equation	3	1
19992000	2	SSCU 4904 / SSU 3924	Final Year Project 2	4	
19992000	1	DSM 1063	Matematik Asas	3	1
19992000	1	SSM 4643	Optimization	3	1
19992000	1	SSCU 4902 / SSU 3922	Final Year Project 1	2	
19981999	2	SSM 1262	Calculus 1	2	2
19971998	1	SSM 1063	Matematik Asas	3	2
19961997	Dec	SSM 2113	Linear Algebra	3	1
19961997	Dec	SSM 1262	Calculus I	2	1

POSTGRADUATE COURSES TAUGHT

Session	Sem	Course Code	Course	Credit Hour
20172018	1	MSM 1623 / MSCM 1623	Mathematics of Operations Research	3
20162017	1	USCP 0010 / MSCM 1033 / MSCJ 1033 / MSCJ 0010 / MSCM 0010	Research Methodology	3
20152016	2	USCP 0010 / MSCM 1033 / MSCJ 1033 / MSCJ 0010 / MSCM 0010	Research Methodology	3
20152016	1	MSM 1623 / MSCM 1623	Mathematics of Operations Research	3
20142015	2	USCP 0010 / MSCM 1033 / MSCJ 1033 / MSCJ 0010 / MSCM 0010	Research Methodology	3
20142015	1	MSM 1623 / MSCM 1623	Mathematics of Operations Research	3
20132014	2	USCP 0010 / MSCM 1033 / MSCJ 1033 / MSCJ 0010 / MSCM 0010	Research Methodology	3
20132014	1	MSM 1623 / MSCM 1623	Mathematics of Operations Research	3
20122013	2	MSM 1623 / MSCM 1623	Mathematics of Operations Research	3
20112012	2	MSM 1623 / MSCM 1623	Mathematics of Operations Research	3

20092010	2	MSM 1623 / MSCM 1623	Mathematics of Operations Research	3
20082009	1	MSM 1643	Heuristic Optimization Methods	3
20072008	1	MSM 1623 / MSCM 1623	Mathematics of Operations Research	3
20062007	2	MSM 1643	Heuristic Optimization Methods	3
20052006	2	MSM 1643	Heuristic Optimization Methods	3

POSTGRADUATE SUPERVISION

(PhD Students)

<i>Year</i>	<i>No.</i>	<i>Name</i>	<i>Status</i>	<i>Title</i>	<i>Roles of supervisor</i>
2005	1	Rashidah Ahmad	Graduated	Simulation-Based Algorithm for Stochastic Job Shop Scheduling	Main Supervisor
2007	2	Raja Rajeswari a/p Ponnusamy	Graduated	Modelling Large Sequential Unequal Facility Layout Problem with Improved Simulated Annealing Solution	Main Supervisor
2008	3	Tarmizi Ismail	Graduated	Optimal Operation Of Multi-Source Reservoir System	Co-Supervisor
2010	4	Nurul Farihan Mohamed	Graduated	Airline On-Time Performance with Integrated Aircraft Routing and Crew Pairing	Main Supervisor
	5	Abdulqader Othman Hamad Ameen	Graduated	Improved Two-Phase Solution	Main Supervisor

				Strategy For Multiobjective Fuzzy Stochastic Linear Programming Problems With Uncertain Probability Distribution	
2011	6	Ting Chee Ming	Graduated	Non-linear Non-Gaussian State-Space Modeling of Non-stationary Time Series: Application to Biomedical signal	Main Supervisor
	7	Azyanzuhaila Hasan Basri	On going	Model And Solution Of Integrated Continuousberth Allocation Problem And Quay Crane Scheduling With Non Crossing Constraint And Safety Distance	Main Supervisor
	8	Rozieana Khairuddin	On going	Model And Solution Of Warehouse Redesign Network Problem	Main Supervisor
2012	9	Tan Yu Ting	On going	Queuing Model for Bottleneck Analysis in Emergency Department	Main Supervisor
	10	Nur Aisyah Omar	On going	Optimizing Forest Growth Model-Based Selective Cutting For Timber	Main Supervisor

				Harvest Planning In Peninsular Malaysia	
2013	11	Ahmad Zharif Salami Mohd. Taha	On going	Simultaneous Water and Energy Minimization Considering Water Management Hierarchy	Main Supervisor
	12	Nur Intan Liyana Mohd. Azmi	On going	Modeling And Heuristic Approaches For Mixed-Model Two-Sided Assembly Line Balancing And Models Sequencing Problems Of Automotive Manufacturing Plant	Main Supervisor
2014	13	Chinyere Ogochukwu Dike	Graduated	Development Of Queueing Theory Based Model For Transmission And Control Of Ebola Virus Disease	Main Supervisor
	14	Norshela Binti Mohd Noh	On going	Forecasting Model for Crude Oil Price with Structural Break	Co-Supervisor
2015	15	Rasvini A/P Rajendran	On going	Game-Theoretic Approach In Identifying Epilepsy Symptomatic Patients Requiring	Main Supervisor

				Differential Diagnosis	
2016	16	Aswani Binti Ibrahim	On going	An Optimization Zone-based Model for Flood Evacuation Planning	Main Supervisor

(MSc. Students)

Year	No.	Name	Status	Title	Type	Roles Of Supervisor
2006	1	Nurul Nadia Nordin	Graduated	Mathematical Modelling and Hybrid Heuristic for Unequal Size Facility Layout Problem and Its Multiple-Document Interface	Research	Main Supervisor
	2	Lim Kian Boon	Graduated	Equal-Area Facility Layout Using Variants of Simulated Annealing and Their Graphical User Interface	Course- work	Main Supervisor
	3	Mardziah Mohd. Lokoman	Graduated	Solving Obnoxious Facility Location Problem Using Simulated Annealing	Course- work	Main supervisor
	4	Rozieana Khairuddin	Graduated	Application of Simulated Annealing in Solving Capacitated Continuous Location- Allocation Problem	Course- work	Main Supervisor

2007	5	Tolhah Abdullah	Graduated	Application of Simulated Annealing in Solving Uncapacitated Continuous Location-Allocation Problem With Zone-Dependent Fixed Cost	Course-work	Main Supervisor
	6	W. Nurfahizul Ifwah W. Alias	Graduated	Genetic Algorithm for Vehicle Routing Problem with Backhauls	Course-work	Main Supervisor
	7	Azila Md. Sudin	Graduated	Constructive Heuristics for Solving Uncapacitated Multisource Weber Problem With Zone-Dependent Fixed Cost	Course-work	Main Supervisor
2009	8	Lim Yee Chea	Graduated	Implementation of Simulated Annealing in Unit Selection for Malay Text-to-Speech System	Course-work	Main Supervisor
2011	9	Si Tong Yong	Graduated	Measuring Efficiency of Practicum Supervision at Sarawak Teachers Training Institute Using Data Envelopment Analysis	Course-work	Main Supervisor
2012	10	Tuan Mariam Tuan Mahmud	Graduated	Simulated Annealing Approach in Solving	Course-work	Main Supervisor

				The Minimax Problem with Fixed Line Barrier		
	11	Nurfarhani Mohd. Shabri	Graduated	Genetic Algorithm Approach in Solving The Minisum Problem with Fixed Line Barrier	Course-work	Main Supervisor
	12	Geethampari A/P Subamaniam	Graduated	Aggregate planning for stochastic demand with attrition for multi product in multi period	Research	Main Supervisor
	13	Rasvini A/P Rajendran	Graduated	Cost-Effectiveness Analysis of the Drug Therapy Administered on Ischemic Stroke Patients	Research	Main Supervisor
2013	14	Gan Siew Ling	Graduated	Stochastic Linear Programming with Fuzzy Linear Partial Information on Probability Distribution	Course-work	Main Supervisor
2014	15	Nurhidayu Binti Idris	On Going	A Particle Swarm Optimization For Simultaneous Continuous Berth Allocation And Quay Crane Scheduling Problem	Research	Main Supervisor
2015	16	Nurul Husna Binti Abdul Rahman	Graduated	Selection of Cash in Transit Service By Using Application Of Analytic Hierarchy Process AHP	Course-work	Main Supervisor

2016	17	Faieznur Binti Mohd Razali	Graduated	AHP Method and Electre I Method in Assessment of Varians of Urban Public Transport in Klang Valley	Course- work	Main Supervisor
	18	Muhammad Fahmi bin Mohd Shukor	Graduated	Aircraft Sequencing Problem Solving by Using Simulated Annealing Method	Course- work	Main Supervisor

POSTGRADUATE EXAMINATION / VIVA

FIRST ASSESSMENT

- (1) Examiner of First Assessment for Azrul Naim Azhar (MSc in Mathematics). 2018
- (2) Chairman and Examiner of PhD First Assessment for Kerk Lee Chang (PhD in Mathematics). 2016
- (3) Examiner of First Assessment for Nor Aina Mohmud (MSc in Mathematics). 2016
- (4) Assistant Chairman of PhD Viva for Ho Ming Kang. 2013
- (5) Assistant Chairman of PhD Viva for Ng Kin Wei. 2013
- (6) Chairman of PhD First Assessment for Norhaidah Mohd Asrah (PhD in Mathematics). 2012
- (7) Chairman of PhD First Assessment for Nur Adilah Abd Jalil (PhD in Mathematics). 2012
- (8) Chairman of PhD First Assessment for Muhamad Alias Md Jeli (PhD in Mathematics). 2012
- (9) Chairman of PhD First Assessment for Lim Rui Sih (PhD in Mathematics). 2012
- (10) Chairman of PhD First Assessment for Kho Chia Chen (PhD in Mathematics). 2012
- (11) Examiner of First Assessment for Dariush Khezrimotiagh (PhD in Mathematics). 2011

PhD INTERNAL EXAMINER

- (1) Kerk Lee Chang (PhD in Mathematics). Global Optimization Algorithm with Trusted Region. 2018
- (2) Abdullahi Ibrahim (PhD in Mathematics). Improved Conjugate Gradient Methods for Unconstrained Optimization with Emphasis on Modification and Hybridization of Conjugate Gradient Coefficients Using Appropriate Line-Search. 2018
- (3) Jayeola Dare (PhD in Mathematics). Black Litterman Model for Diversification of Assets in Optimizing Risk of Portfolio. 2017
- (4) Mohd. Khairul Bazli Mohd Aziz (PhD in Mathematics). 2016
- (5) Younes Ilahi (PhD in Mathematics). Adaptive Mean-Variance-CVar Model of Multi-Portfolio Optimization with Application in Multi-objectives Islamic Portfolio. 2014
- (6) Shazirawati Mohd Puzi (PhD in Mathematics). Self-Organization Strategies in Data Communication for Wireless Sensor Network. 2013
- (7) Ahmad Aliyu Maidamisu (PhD in Mathematics). Conceptual Model for The Selection Of Window Width in Data Envelopment Analysis. 2011

PhD EXTERNAL EXAMINER

- (1) Nur Farraliza Mansor. Enhanced Parameters in Harmony Search Algorithm Using Step and Linear Function For Bus Driver Scheduling And Rostering Problem. 2017

MSc EXTERNAL EXAMINER

- (1) MSc. in Engineering Mathematics. UniMAP. 2015
- (2) Noraimi Azlin Mohd Nordin. Real-Time Dispatching and Routing of The EMS Ambulances Using The CTT Model. UiTM. 2009

MSc INTERNAL EXAMINER

- (1) Examiner of Dissertation for Wong King Ling (MSc. In Mathematics). 2018
- (2) Examiner of MSc by Research for Saiyidatul Saadah Ahmad Nizam (MSc. In Mathematics). 2016
- (3) Examiner of Dissertation for Nur Athirah Mohd Yusof (MSc. In Mathematics). 2016
- (4) Examiner of Dissertation for Nurain Noor Rahim (MSc. In Mathematics). 2016
- (5) Examiner of Dissertation for Nurul Duratulain Ramlan (MSc. In Mathematics). 2012
- (6) Examiner of Dissertation for Nur Farah Ain Mislán (MSc. in Mathematics). 2012
- (7) Examiner of Dissertation for Nur Amira Ramdzan (MSc. in Mathematics). 2012
- (8) Examiner of Dissertation for Wan Harniyanti Wan Ahmad (MSc. In Mathematics). 2012

- (9) Examiner of Dissertation for Raja Nadiah Raja Mohd Nazir (MSc.in Mathematics). 2012
- (10) Examiner of Dissertation for Nur 'Afifah Rusdi (MSc.in Mathematics). 2012
- (11) Examiner of Dissertation for Nur Intan Liyana Mohd Azmi (MSc. Mathematics). 2012
- (12) Examiner of Dissertation for Voon Chui Kim (MSc in Mathematics). 2009
- (13) Examiner of Dissertation for Mazlinda Ibrahim (MSc in Mathematics). 2009
- (14) Examiner of Dissertation for Ng Kin Wei (MSc in Mathematics). 2009
- (15) Examiner of Dissertation for Chen Chun Hong (MSc in Mathematics). 2009
- (16) Examiner of Dissertation for Farahanim Misni (MSc in Mathematics). 2008
- (17) Examiner of Dissertation for Shakila Saad (MSc in Mathematics). 2008
- (18) Examiner of Dissertation for Lim Yai Fung (MSc in Mathematics). 2007
- (19) Examiner of Dissertation for Azyanzuhaila Hasan Basri (MSc in Mathematics). 2007
- (20) Examiner of Dissertation for Nor Hazadura Hamzah (MSc in Mathematics). 2007
- (21) Examiner of Dissertation for Mohad Fuad Jamaludin (MSc in Mathematics). 2006
- (22) Examiner of Dissertation for Nik Arlina Nik Ali (MSc in Mathematics). 2005
- (23) Examiner of Dissertation for Najihah Mohamed (MSc in Mathematics). 2005

PUBLICATIONS

JOURNAL

ISI Journal:

2007

- (1) **Zainuddin, Z.M.** and Salhi, S. A Perturbation-based Heuristic for The Capacitated Multisource Weber Problem. European Journal of Operational Research, 179, pp. 1194 – 1207 (IF : 3.297)

2011

- (2) Chee-Ming, Ting, Salleh, S. H., **Zainuddin, Z.M.**, Bahar, A. Spectral Estimation of Nonstationary EEG Using Particle Filtering With Application to Event-Related Desynchronization (ERD). IEEE Transactions on Biomedical Engineering, 58(2), pp. 321 – 331 (IF: 3.577)

2012

- (3) Kayhan Zrar Ghafoor, Kamalrulnizam Abu Bakar, **Zaitul Marlizawati Zainuddin**, Chih Heng Ke and Alberto J. Gonzalez. Reliable Video Geocasting Over Vehicular Ad Hoc Networks. International Journal of Ad Hoc & Sensor Wireless Networks. Old City Publishing. Vol. 15(2-4), pp. 201-221(IF: 0.4)

2013

- (4) Abdulqader Othman Hamadameen, **Zaitul Marlizawati Zainuddin**. Multiobjective Fuzzy Stochastic Linear Programming Problem in the 21st Century. 2013. Life Science Journal. 10(4), pp. 616-647. (IF: 0.165)

2014

- (5) Chee-Ming Ting, Sh-Hussain Salleh, **Z. M. Zainuddin**, and Arifah Bahar. Artifact Removal From Single-Trial Erps Using Non-Gaussian Stochastic Volatility Models And Particle Filter. IEEE Signal Processing Letters, pp. 923-927 (IF: 2.528)

2015

- (6) Chee-Ming Ting, Sh-Hussain Salleh, **Z. M. Zainuddin**, and Arifah Bahar . Modeling And Estimation Of Single-Trial Event-Related Potentials Using Partially Observed Diffusion Process. Digital Signal Processing, pp.128-143 (IF: 2.337)

2017

- (7) Arifah Bahar, Norshela Mohd Noh, **Zaitul Marlizawati Zainuddin**. Forecasting model for crude oil price with structural break. *Malaysian Journal of Fundamental and Applied Sciences, Special Issue on Some Advances in Industrial and Applied Mathematics*, pp. 421-424
- (8) Azmi, N. I. L. M., **Zainuddin, Z. M.**, & Ahmad, R. MILP model for integrated line balancing and model sequencing problems for Mixed-Model Two-Sided Assembly Line. *Malaysian Journal of Fundamental and Applied Sciences*, 13(4-1)

2018

- (9) Chinyere Ogochukwu Dike, **Zaitul Marlizawati Zainuddin**, Ikeme John Dike. [Mathematical Models for Mitigating Ebola Virus Disease Transmission: A Review](#). Advanced Science Letters, 24(5), pp. 3536-3543 (IF: 0.42)

2015

- (1) Tian-Swee Tan, Lim Yee Chea, **Zaitul Marlizawati Zainuddin**, Sheikh Hussain Shaikh Salleh and Hum Yan Chai. Unit selection for Malay text-to-speech system using segmental context and simulated annealing. *Scientific Research and Essays* Vol. 6(20), pp 4281-4289
- (2) Hamadameen, A.O. and **Zainuddin, Z.M.** A Reciprocated Result Using an Approach of Multiobjective Stochastic Linear Programming Models with Partial Uncertainty. *International Journal of Mathematics in Operational Research*, Vol. 7(4). pp.395-414

2016

- (3) Rajendran, R., & **Zainuddin, Z. M.** The Determining Factors in Prescribing Anti-Hypertensive Drugs to First-Ever Ischemic Stroke Patients. In *Industrial Engineering, Management Science and Application (ICIMSA)*, 2016 International Conference. IEEE.
- (4) Nurul Farihan Mohamed, **Zaitul Marlizawati Zainuddin**, Said Salhi, Nurul Akmal Mohamed. The Integrated Aircraft Routing and Crew Pairing Problem: ILP Based Formulations. *Jurnal Teknologi*, Vol 78 (6-5), pp 79-85
- (5) Amir S. A. Hamzah, Ali H. M. Murid, **Zaitul Marlizawati Zainuddin**, Zainal A. Aziz, Hasniza Ramli, Hazzarita Rahman, Norazelah Hamdon. A Three Competing Species Model For Wastewater Treatment: Case Study On Taman Timur Oxidation Pond, Johor Bahru. *Jurnal Teknologi (Sciences & Engineering)*, Vol. 78(4-4). pp. 145-150
- (6) Dike, C. O., **Zainuddin, Z. M.**, & Dike, I. J. Queueing Technique for Ebola Virus Disease Transmission and Control Analysis. *Indian Journal of Science and Technology*, 9(46).
- (7) Idris, N., & **Zainuddin, Z. M.** (2016, May). A Simultaneous Integrated Model with Multiobjective for Continuous Berth Allocation and Quay Crane Scheduling Problem. In *Industrial Engineering, Management Science and Application (ICIMSA)* International Conference. IEEE.
- (8) Nurul Farihan Mohamed, **Zaitul Marlizawati Zainuddin**, Said Salhi, Nurul Huda Mohamed and Nurul Akmal Mohamed, Development of Hybrid Algorithm for Integrated Aircraft Routing Problem and Crew Pairing Problem, *Indian Journal of Science and Technology*, Vol 9(48), DOI: 10.17485/ijst/2016/v9i48/108696

2017

- (9) Ismail, T., Harun, S., **Zainudin, Z. M.**, Shahid, S., Fadzil, A. B., & Sheikh, U. U. Development Of An Optimal Reservoir Pumping Operation For Adaptation To Climate Change. *KSCE Journal of Civil Engineering*, 21(1), 467-476.

- (10) Azmi, N. M., Ahmad, R., & **Zainuddin, Z. M.** MILP Model For Integrated Balancing And Sequencing Mixed-Model Two-Sided Assembly Line With Variable Launching Interval And Assignment Restrictions. In *Journal of Physics: Conference Series* (Vol. 890, No. 1, p. 012107). IOP Publishing.

NON-INDEXED Journal:

1999

- (1) **Zaitul M. Zainuddin.** Designing Optimal Set of Experiments By Using Bayesian Method in Methyl Iodide Adsorption. *Matematika*, 15, pp. 111 – 117

2006

- (2) Abu Bakar, K. and **Zainuddin, Z.M.** Parallel Virtual Machine Versus Remote Procedure Calls: A Performance Comparison. *Jurnal Teknologi Maklumat*, 18(1). pp. 33 – 45

2008

- (3) Khairuddin, R., Md. Sarif, N. and **Zainuddin, Z.M.** Aplikasi Simulated Annealing Dalam Menyelesaikan Masalah Lokasi-Alokasi Selanjar Berkapasiti. *Jurnal Karya Asli Lorekan Ahli Matematik*, 1(1), pp. 98 – 102
- (4) Mohd Lokoman, M., **Zainuddin, Z.M.** and Mohamad, M.S. Solving Obnoxious Facility Location Problem Using Simulated Annealing. *Jurnal Karya Asli Lorekan Ahli Matematik*, 1(1), pp. 127 – 137
- (5) Tolhah, A, **Zainuddin, Z.M.** and Salim, S. A Simulated Annealing Approach for Uncapacitated Continuous Location-allocation Problem with Zone-dependent Fixed Cost. *Matematika*, 24 (1). pp. 67-73
- (6) Nordin, N.N. and **Zainuddin, Z.M.** Meta-Heuristics for Solving Facility Layout Problems: Concepts and Trends. *Matematika*, Special Edition Part II, pp. 681 – 690

2009

- (7) Nordin, N.N., **Zainuddin, Z.M.**, Salim, S. And Ponnusamy, R. Mathematical Modeling and Hybrid Heuristic for Unequal Size Facility Layout Problem”, *Journal of Fundamental Sciences*, 5, pp. 79 – 87

2010

- (8) Tarmizi Ismail, Mazlina Alang Othman, Abu Bakar Fadzhil, Sobri Harun, **Zaitul Marlizawati Zainuddin** . Deposition of Sediments in Detention Pond. *Malaysia Journal of Civil Engineering*, (22)(1), pp. 95-118

2014

- (9) Hasan Basri, A.Z. and **Zainuddin, Z.M.** Development of Integrated Model For Continuous Berth Allocation Problem And Quay Crane Scheduling With Non Crossing Constraint. American Institute of Physics (AIP) Proceedings. pp. 113-121
- (10) Hamadameen, A.O. and **Zainuddin, Z.M.** Multiobjective Fuzzy Stochastic Linear Programming Problems with Inexact Probability Distribution. American Institute of Physics (AIP) Proceedings. pp. 546-558

2016

- (11) Nurul Farihan Mohamed, **Zaitul Marlizawati Zainuddin**, Said Salhi, Nurul Huda Mohamed & Nurul Akmal Mohamed. A Heuristic and Exact Method: Integrated Aircraft Routing and Crew Pairing Problem. Modern Applied Science, Vol. 10 (4). pp.128-136
- (12) Rajendran, R., & **Zainuddin, Z. M.** Cost - effectiveness analysis of the antiplatelet treatment administered on ischemic stroke patients using goal programming approach. AIP Conference Proceedings 1613, 71 (2014); DOI: 10.1063/1.4894333
- (13) Noh, N. M., Chen, K. C., Bahar, A., & **Zainuddin, Z. M.** Analysis of oil price fluctuations. In AIP Conference Proceedings, Vol. 1750(1), p. 060011. AIP Publishing.

PROCEEDINGS/CONFERENCES:

2003

- (1) **Zainuddin, Z.M.** and Salhi, S. An Investigation into Capacitated Continuous Location Problems. EWGLA (EURO Working Group on Location Analysis) Meeting XIV, Corfu, Greece. September 2003.
- (2) **Zainuddin, Z.M.** and Salhi, S. Capacitated Continuous Location-Allocation Problems. Young OR 13, University of Bath, United Kingdom. April 2003.

2008

- (3) Ponnusamy, R.R. and **Zainuddin, Z.M.** Hybridizing SA and GA in Solving Unequal Size Facility Layout Problem. SKSM16 (Symposium Kebangsaan Sains Matematik Ke-16), Hotel Renaissance Kota Bharu, Kelantan, Malaysia. 3-5 June 2008.

2010

- (4) **Zainuddin, Z. M.** and Md. Sudin, A. Constructive heuristics for uncapacitated multisource weber problem with zone-dependent fixed cost. 1st Regional Conference on Applied and Engineering Mathematics (RCAEM-I), Eastern & Oriental Hotel, Penang. 2-3 June 2010.
- (5) Ponnusamy, R.R. and **Zainuddin, Z. M.** Mathematical modeling and simulated annealing based meta-heuristics for solving unequal size facility layout problem. MSU Information Sciences and Engineering Seminar 2010, Shah Alam. 28 September 2010.
- (6) Ponnusamy, R.R. and **Zainuddin, Z. M.** Solving unequal size facility layout problem using simulated annealing. Faculty of Science Postgraduate Conference 2010 (FSPGC 2010), 5-7 Oct 2010.

2011

- (7) Nurul Farihan Mohamed, **Zaitul Marlizawati Zainuddin** and Said Salhi. Airlines on Time Performance with Aircraft Routing Problem And Crew Scheduling Problem: A Review. National Science Postgraduate Conference 2011 (NSPC2011). 15-17 November 2011.

2012

- (8) Hasan Basri, A. and **Zainuddin, Z.M.** Integration of Continuous Berth Allocation Problem and Quay Crane Scheduling: A Review. ISPC 2012 (International Science Postgraduate Conference), Universiti Teknologi Malaysia, Malaysia. 27 -30 November 2012.
- (9) Tarmizi Ismail , Sobri Harun , **Zaitul Marlizawati Zainuddin** , Usman Ullah Sheikh4 V.T.V. Nguyen, M. Karamouz, And Nurul Nadrah Aqilah Tukimat. Impacts of Climate Change on Multi-Source Reservoir Optimal Operation. 2nd International Conference on Water Resources (ICWR 2012)

2013

- (10) Rajendran, R. and **Zainuddin, Z.M.** Operations Research in Pharmacoeconomics: An Overview. 3rd International Conference on Biotechnology Engineering 2013.

- (11) Rasvini Rajendran and **Zaitul Marlizawati Zainuddin**. A Comparison of the Various Decision Analysis Models in Cost-Effectiveness Analysis. 4th ICOWOBAS-RAFSS 2013, Johor Bahru, Malaysia, 3-5 September 2013

2015

- (12) Tarmizi Ismail , Sobri bin Harun , Shamsuddin Shahid , **Zaitul Marlizawati Zainudin** , Mahiuddin Alamgir , and Usman Ullah Sheikh. Prediction In Ungauged River Basin In The West Coast Of Peninsular Malaysia Using Linear Regression Model. 3rd International Conference On Water Resources (ICWR 2015).
- (13) Tan Yu-Ting, **Zainuddin, Z.M.** and Idris, B. Transient Analysis Of M/M/1 Queuing Theory: An Overview. 3rd International Science Postgraduate Conference 2015.
- (14) Abdul Aziz, Z. , Bahar. A, Omar, M.S.S , **Zainuddin, Z.M.** and Ahmad, N., Challenge In Applying Quantitative Analysis On Bull Semen Quality In Malaysia. Symposium Kebangsaan Sains Matematik Ke-23. 2015.
- (15) Sadikon, Sharifa Amalina and **Zainuddin, Zaitul Marlizawati**. Application of The Promethee II Method in Overcoming The Bottleneck Problem in An Emergency Department. In: Symposium Projek Sarjana Muda Sains, 22-23 June, 2015, Johor Bahru, Johor.

2016

- (16) Nurul Ain Alzafry Mohamed Alnassif and **Zaitul Marlizawati Zainuddin**. Linear Programming And Genetic Algorithm Approach For Personnel Assignment Modelled As Transportation Problem. Final Year Project Proceeding, 2016, Department of Mathematical Sciences, UTM

2017

- (17) **Zainuddin, Z. M.**, & Azhar, A. N. (2017). Route optimization of Muafakat Johor bus service. *eProceedings Chemistry*, 2(2).
- (18) Dike, C. O., **Zainuddin, Z. M.**, & Dike, I. J. (2017). Susceptible Infected Removed Epidemic Model Extension for Efficient Analysis of Ebola Virus Disease Transmission. *Advanced Science Letters*, 23(9), 9107-9114.
- (19) Azrul Naim Azhar and **Zaitul Marlizawati Zainuddin**. Vehicle Routing Problem with Time Windows Model and Solution for Muafakat Johor Bus Service. Final Year Project Proceeding, 2017, Department of Mathematical Sciences, UTM
- (20) **Zaitul Marlizawati Zainuddin**, Akbar Banitelebidehkorbi, Syarifah Zyrina Nordin, Nur Arina Bazilah Aziz , Farhana Johar. Optimization of UTM Bus Services.

International Seminar on Mathematics in Industry 2017, August 1-2, 2017, Pulau Springs Resort, Johor Bahru, Malaysia

BOOK / BOOK CHAPTER:

2011

- (1) Yee Chea Lim, Tian Swee Tan, **Zaitul M. Zainuddin**. Unit Selection Speech Synthesis Using Simulated Annealing. VDM Verlag Dr. Muller Aktiengesellschaft & Co. KG, ISBN 13: 9783639344868, ISBN 10: 3639344863.

2014

- (2) Ponnusamy Raja Rajeswari, **Zaitul Marlizawati Zainuddin** and Shahrudin Salleh. Optimization Of Sequential Unequal Size Facility Layout Problem With Simulated Annealing. ISBN : 978-983-52-0993-2.

2015

- (3) Rashidah Ahmad and **Zaitul Marlizawati Zainuddin**. Integrating Simulation into Simulated Annealing for Job Shop Scheduling Problems with Random Processing Times. ISBN : 978-983-52-1092-1.
- (4) **Zaitul Marlizawati Zainuddin**, Tolhah Abdullah, Raja Rajeswary Ponnusamy and Farhana Johar. Simulated Annealing Procedure for Multisource Weber Problem with Zone-Dependent Fixed Cost. ISBN : 978-983-52-1092-1.
- (5) Tarmizi Ismail, Sobri Bin Harun, Shamsuddin Shahid and **Zaitul Marlizawati Zainuddin**. Simulating Inflow to a Tropical Reservoir using IHACRES. ISBN : 978-983-52-1182-9.

2017

- (6) Khairul Idlan, Morteza Mohsenipour, **Zaitul Marlizawati Zainuddin**. Changes and Variability in Climate Parameters in Peninsular Malaysia in Recent Decades. ISBN 978-983-52-1486-8.

ENCYCLOPEDIA:

- (1) Linear Equation. (1999). Encyclopedia of Science and Technology, DBP.

INVITED / GUEST SPEAKER

- (1) Designing Optimal Sets of Experiments. Mathematics Department Colloquium, Mathematics Department, Faculty of Science, UTM. 1998
- (2) Constructive Heuristic for the Capacitated Multi-Source Weber Problem. Mathematics Department Colloquium, Mathematics Department, Faculty of Science, UTM. 2005
- (3) AMORS VIII Report. Mathematics Department Colloquium, Mathematics Department, Faculty of Science, UTM. 2006
- (4) Speaker for Program 'How to Prepare First Assessment Proposal'. PGSS Faculty of Science. 25 April 2012
- (5) Integrated Model of Continuous Berth Allocation Problem and Quay Crane Scheduling With Non-Crossing Constraint. Invited Speaker in Symposium Kebangsaan Sains Matematik ke – 23, 24 – 26 November 2015
- (6) Penceramah Bengkel 7 Habits Of Highly Effective People. 10 November 2016
- (7) Modeling and Optimization of University Bus Transit Service : A Case Study in UTM. Mathematics in Industry Seminar Series, 7 March 2017.
- (8) Integration Of Economic Production Quantity With Defective Items For Multi-Product In Multi-Period. Invited Speaker in International Seminar on Mathematics in Industry 2017, 1 – 2 August 2017
- (9) Significance of Operations Research in Real Application. Mini Colloquium on Research in Mathematics – In Conjunction with Visit from Don Mariano Marcos Memorial State University, Phillipines. 7 August 2017.

SEMINARS/WORKSHOP

- (1) Academia – Industry Engagement Session, *April 2017*.
- (2) Bengkel “We Care, We Assist” Kemahiran Asas Tolong Bantu Penasihat Akademik Mahasiswa Tahun Satu, *February 2017*.
- (3) Bengkel Book Chapter RGMO, *February 2017*.
- (4) Bengkel Kurikulum 2u2i, *December 2017*.
- (5) Bengkel Pembentangan Laporan Akhir Geran Projek Di Bawah Program Flagship UTM-CIAM dan Book Chapter, *November 2017*.
- (6) Bengkel Pemurnian L1 Program SSCE dan SSCM Peringkat Pertama, *October 2017*.

- (7) Bengkel Pemurnian Maklumat Kursus (L1) Fakulti Sains, *October 2017.*
- (8) Bengkel Penggunaan Sistem Latihan Industri (ITS), *November 2017.*
- (9) Bengkel Penyediaan Dokumen SAR 2017, *April 2017.*
- (10) Bengkel Semakan Projek yang Berpotensi Di Bawah IISJ 2017, *July 2017.*
- (11) Kursus Service Learning, *March 2017.*
- (12) Leadership : A Contact Sport by Mr. Todd Ashton, President Ericsson Malaysia, *November 2017.*
- (13) Qalbu-Guided Leadership oleh Tan Sri Dato Prof. Dzulkifli Abdul Razak, *December 2017.*
- (14) Syarahan Perdana Dare to Dream oleh Y.BHG. Tan Sri Dr Tony Fernandes, *September 2017.*
- (15) Taskforce Faculty Science for Community (FSC@ Gelang Patah), *January 2017.*
UTM-CIAM: Mathematics in Industry Seminar Series, *August, 2017.*
- (16) Bengkel Memperkasakan Program Servis Learning CCSL, 2016
- (17) Young Talent Consultancy Camp 2016
- (18) Simposium Sinergi IPT, Industri dan Kerajaan Negeri Johor Dalam Memperkasa Inovasi 2016
- (19) 2-Day TRIZ Level 1 Training. 2015
- (20) TRIZ Level 2. 2015
- (21) Forum on Complex Problem Solving from Industries' Perspective. 2015
- (22) Management Science and Operations Research Seminar. 2014
- (23) Worldview of New Academia. 2014
- (24) 92nd European Study Group with Industry. 2013
- (25) Bengkel Pemurnian COPPA dan COPIA Program Pra-siswazah dan Pengajian Siswazah Fakulti Sains UTM. 2012
- (26) Bengkel Pemurnian Prosedur, Kod Amalan dan Penilaian Program Pasca Ijazah Fakulti Sains UTM. 2011
- (27) Bengkel Penilaian Kemahiran Insaniah. 2010
- (28) Bengkel Skema Pemarkahan. 2010
- (29) Kursus Designing Courses Outcome-Based Education: An Integrated Design Approach. 2010
- (30) Kursus Pembelajaran Aktif. 2010