

PROF. DR. MASRI AYOB

Email: masri@ukm.edu.my
<http://www.ftsm.ukm.my/masri>

ADDRESS

Center for Artificial Intelligence Technology(CAIT)
Data Mining & Optimization Research Group (DMO)
Faculty Of Information Science & Technology,
Universiti Kebangsaan Malaysia (UKM),
43600 Bangi, Selangor, Darul Ehsan, Malaysia.
Phone: +6019-264 4984; Fax: +603-8921 6184



EDUCATION

| | |
|---|------|
| Phd (Computer Science) The University of Nottingham, UK | 2005 |
| Master of Electrical (MEng) Universiti Teknologi Malaysia | 1996 |
| Bachelor of Engineering (Electrical, Electronics and Systems). BEng Universiti Kebangsaan Malaysia. | 1990 |

RESEARCH EXPERIENCE (22 years, since 1992)

| | |
|---------------|--|
| H-index | 8 (SciVal Experts), 7(Scopus database) |
| #Publications | 59 (SciVal Experts) |
| #Citation | 142 (Scopus database) |

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WORK EXPERIENCE

| | |
|--|----------------|
| Lecturer, FTSM, UKM | 1997 - present |
| Post-Doctoral Researcher, The University of Nottingham, UK | 2005 - 2006 |
| Researcher, MIMOS BHD | 1992 - 2006 |
| Lecturer, Butterworth Institute Of Technology (BIT) | 1990 - 1992 |

CURRENT WORK IN UNIVERSITI KEBANGSAAN MALAYSIA

| | |
|--|---------------------|
| Confirmation date | Oct. 2, 2000 |
| Associate Professor, UKM | June 2008 - present |
| Head of postgraduate Programme, FTSM, UKM | 2011 - 2012 |
| Deputy Director (application), Center of Information Technology, UKM | 2006 - 2009 |
| Senior lecturer, UKM | 2006 - 2008 |
| Lecturer, FTSM, UKM | 1997 - 2006 |

RESEARCH INTEREST

Scheduling
Heuristic Search
Optimization
Timetabling

CONSULTATION/SOFTWARE DEVELOPMENT PROJECT/BEING REFERRED

1. Security Patrol System
2. Invigilators Assignment Project for National Examination, Jabatan Pendidikan Melaka
3. UKM Student Information System (SMP)
4. Intelligent Examination Timetabling System (InScheduler)
5. UKM Staff Management System (SMK)
6. UKM Research Management System (SMPU)
7. UKM e-Repository Penerbitan (e-Rep)
8. UKM e-Ticket
9. UKM "Sistem Pengurusan Kenderaan"
10. UKM SPKLN
11. UKM "Sistem Permohonan GRA"
12. UKM Sport Management System
13. MIMOS-PPK Traffic Light Management System
14. Noval Smart Lamp

MEMBERSHIPS

1. Member of IEEE Computer Society (membership number: 91077156).
2. Member of IEEE.
3. Member of Persatuan Alumni UKM, Association/Organization, (since 1990-present).

AWARDS

Dana Impak Perdana (RM200k): 2015

Publication Award (RM10k): 2012

Excellent Teaching Award (FTSM): 2011, 2012, 2014

Outstanding Commitment (FTSM) : 2010/2011

"Anugerah Anjakan Gaji" : 2010

International Invention, Innovation and Technology Exhibition Expo (ITEX)
- Silver medal : 2010

Excellent Service Award (UKM) : 2008

Publication Award (RM1.5k) ("Ganjaran Penerbitan") : 2008

Postdoctoral Fellowship, The University of Nottingham, UK : 2005 - 2006

Silver medal: In the research exhibition at International Symposium of Information Technology 2003 (ITSim03). Project: Smart Information Center System: Automatic Cataloguing and Classification System Using Information Storage and Retrieval Technique : 2003

Phd Fellowship, Universiti Kebangsaan Malaysia : 2001 - 2005

Complementary gift: Anugerah Pengurusan Maklumat, Universiti Kebangsaan Malaysia, 2001. Projek: Information Management System of the Information Resource Center in FTSM : 2001

LANGUAGE

| Language | Oral | | | Writing | | |
|------------------|-------------------|-----------------|-------------|-------------------|-----------------|-------------|
| | Excellent 8-10 | Moderate 5-9 | Poor 1-4 | Excellent 8-10 | Moderate 5-9 | Poor 1-4 |
| Malay Language | 10 | | | 10 | | |
| English Language | 10 | | | 10 | | |
| Others | - | | | - | | |

TEACHING EXPERIENCE (2008-2014)

| Code | Course |
|--------|---|
| TC6544 | Advanced Artificial Intelligence (2013,2014) |
| TK2153 | Information Sharing (Sem3: 2012/2013) |
| TM6014 | Research Methodology (Sem1 & 2: 2011/2012, 2013/2014, 2014/2015) |
| TK1213 | Basic electronics and digital design (Sem2: 2010/2011, 2011/2012). |
| TK2633 | Microprocessor and interfacing (Sem1: 2007/2008, 2010/2011, 2011/2012, 2013/2014) . |
| TK2123 | Computer Organization and Architecture (Sem1: 2011/2012) |
| TK2934 | Object Oriented Programming (Sem2: 2010/2011) |
| TK1924 | Data Structure (Sem2: 2009/2010) |
| TK6923 | Programming II (Sem1: 2007/2008) |
| TZ1023 | Computer Programming for Arts (Sem2: 2007/2008) |

SUPERVISION (POSTGRADUATE STUDENTS) (2008-2015)

14 Graduated Students (Postgraduate): 8PhD, 1 MSc (thesis), 6 MSc(mix-mode)

1. Norzakiah (2014)
2. Naseer R. Sabar (PhD 2013) - **main**
3. Hassan Yonuis Jafar Al Tarawneh (PhD 2013) - **main**
4. Ariff bin Ab Malik(PhD 2013) - **main**
5. Ghaith Mohammad Jaradat (PhD 2012) - **main**
6. Mohammed Abdo Saleh Hadwan (PhD 2012) - **main**
7. Anmar Fakhri Moh'd Abuhamdah (PhD 2011) - **main**
8. Khaled Shakir (PhD 2011) - **co-supervision**
9. Jahariah Sampe (PhD 2011) - **co-supervision**
10. Naseer R. Sabar (MSc Full Research 2010) - **main**
11. Mohammad Mobasher Kashani (MSc mix-mode, 2014)

12. Noora Hani Abdulmajeed (MSc mix-mode)
13. Mukti Kamal (MSc mix-mode)
14. Rema A. Abobaker (MSc mix-mode)
15. Ebtisam Sharif (MSc mix-mode)
16. Mouna Saied (MSc mix-mode)

PhD Students (under supervision)

1. Anas W.A. Arrm (P73048)-Phd
2. Yang Xiao Fei (P64784) (main) - Phd
3. Esam Taha Yassen (P63032) (main) - Phd
4. Hamzah Ali Khalaf Al Khazaleh (P58723)(main)- Phd
5. Rafidah Abdul Aziz (P53584) (main) - Phd
6. Ahmed Oughalim (co-supervision) - Phd

EXAMINER FOR POSTGRADUATE THESIS (2008-2014)

7 PhD students

| | Title | Student | Year |
|----|---|------------------------------------|-------------|
| 1. | Population-Based Approach For Highly Constrained Nurse Rostering Problem | Mohammed A.M.Awadallah (USM) | 2014 |
| 2. | Optimization of Machine Allocation in Flexible Manufacturing System Using Bio-Inspired and Musical-Harmony Approaches | Umi Kalsom Yusof (UTM) | 2012 |
| 3. | An Investigation On The Ant-Based Hyper-Heuristic For Routing Problems | Zalilah Abdul Aziz (UNMC) | 2012 |
| 4. | Single And Multi-Objective Population-Based Algorithms For University Timetabling Problems | Hamza I. Turabieh (UKM) | 2010 |
| 5. | Predictive and Reactive Algorithms for Job Shop Scheduling Problem | Erna Budhiarti (UKM) | 2009 |
| 6. | Decision Support Model In Failure-Based Computerised Maintenance Management System For Small And Medium Industries | Burhanuddin (UTM) | 2009 |
| 7. | Ant System Algorithm with Enhancement Techniques for Course | Djasli | 2008 |

Timetabling Problem.

Djamarus(UUM)

7 MSc Students

- | | | | |
|----|--|--|------|
| 1. | A Genetic Algorithm for Solving A Complex Job_Shop Problem: A Case Study | Nurul Izzah Anuar (MMU) | 2010 |
| 2. | Tabu-Based Non Linear Great Deluge Algorithm | Rohazlin Md Yassin (UKM) | 2010 |
| 3. | Evolving Intelligence for Real-time Strategy Game | Ch'ng Siong Huat(UMS- thesis) | 2010 |
| 4. | Hybrid Particle Swarm Optimization-Constraint-Based Reasoning In Solving University Course Timetabling Problem | Ho Sheau Fen (UTM- thesis) | 2009 |
| 5. | Keystroke Biometrics Authentication System Based on Artificial Neural Network. | Amart Sulong (UIA) | 2009 |
| 6. | Designing the Rule and Constraints for Vehicle Modeling of Vehicle Inspection Center Appointment Scheduling | Nuzulha Khilwani Ibrahim (UTM- thesis) | 2008 |
| 7. | Penggunaan Kaedah Pengelompokan Berasaskan Algorithma Genetik untuk Pengagihan Kelas Pelajar | Zainudin Zukhri(UKM- thesis) | 2008 |

PUBLICATIONS

99 articles

- 13 ISI journals (5 Q1, 3 Q2 and 2 Q3, 1 ISI) + 2 in press ISI journals
- 23 Scopus journals
- 11 Refereed journals
- 4 Book chapters
- 48 proceedings
- 2 conference papers

ISI / High Impact Journals (13)

(2008-2015)

1. Nasser R. Sabar, **Masri Ayob**, Graham Kendall and Rong Qu (2015). "A Dynamic Multiarmed Bandit-Gene Expression Programming Hyper-Heuristic for Combinatorial Optimization Problems". IEEE Transactions on Cybernetics, 45(2), pp. 217-228, (DOI:10.1109/TCYB.2014.2323936).
2. Nasser R. Sabar, **Masri Ayob**, Graham Kendall and Rong Qu (2015). "The Automatic Design of Hyper-heuristic Framework with Gene Expression Programming for Combinatorial Optimization problems". IEEE Transactions on Evolutionary Computation, 19(3), pp. 309-325, IEEE publisher, (DOI:10.1109/TEVC.2014.2319051; Q1, Impact factor: 4.8).
3. Anmar Abuhamdah, Masri Ayob, Graham Kendall and Nasser R. Sabar, (2014). "Population based Local Search for University Course Timetabling Problems" Applied Intelligence, 40(1), pp.44-53. (Q2, impact factor 1.8, publisher: Springer, DOI: 10.1007/s10489-013-0444-6).
4. Salwani Abdullah, Nasser R. Sabar, Mohd Zakree Ahmad Nazri and **Masri Ayob** (2014). "An Exponential Monte-Carlo algorithm for feature selection problems", Computers & Industrial Engineering Journal, 67(1), pp. 160-167 Elsevier (Q2, Impact factor 1.6).
5. Ghaith Jaradat, **Masri Ayob** and Zulkifli Ahmad (2014), "On the performance of Scatter Search for Post-Enrolment Course Timetabling Problems", Journal of Combinatorial Optimization, 27(3), pp.417-439. (Q3 journal; impact factor 0.664, Publisher: Springer, DOI: 10.1007/s10878-012-9521-8, ISSN: 1382-6905).
6. Nasser R. Sabar, **Masri Ayob**, Graham Kendall and Rong Qu (2013). "Grammatical Evolution Hyper-heuristic for Combinatorial Optimization problems", IEEE Transactions on Evolutionary Computation, 17(6), pp.840-861. (Q1 journal: impact factor 4.58, the top

five journals in Operation Research, **publisher: IEEE**, DOI:10.1109/TEVC.2013.2281527).

7. Mohamed Abdo Salleh Hadwan, **Masri Ayob**, Nasser R. Sabar and Rong Qu (2013) "A Harmony Search Algorithm for Nurse Rostering Problems", *Information Sciences*, 233, pp.126-140 (**Q1 journal: impact factor 2.833, publisher: Elsevier**, DOI: 10.1016/j.ins.2012.12.025).
8. Nasser R. Sabar, **Masri Ayob**, Rong Qu and Graham Kendall (2012). "A Honey-bee Mating Optimization Algorithm for Educational Timetabling Problems", *European Journal of Operational Research*, 216(3), pp. 533-543, (**Q1 journal; impact factor 2.158, Publisher: Elsevier**).
9. Nasser R. Sabar, **Masri Ayob**, Rong Qu and Graham Kendall (2012), "A graph coloring constructive hyper-heuristic for examination timetabling problems". *Applied Intelligence*, Springer, Vol. 37, 1-11 (**Q2 journal, impact factor 0.849, Publisher: Springer**).
10. Anmar Abuhamdah and **Masri Ayob** (2010). "Adaptive Randomized Descent Algorithm for Solving Course Timetabling Problems". In *The International Journal of the Physical Sciences (IJPS - 2010)*, 5(16), pp. 2516-2522, (ISI).
11. **Masri Ayob** and Graham Kendall (2009). "The Optimisation Of The Single Surface Mount Device Placement Machine In Printed Circuit Board Assembly: A Survey." *International Journal Of Systems Science*, 40(6), pp. 553-569. (**Q3 journal, Impact factor:0.948, Publisher: Taylor & Francis**).
12. **Masri Ayob** and Graham Kendall (2008). "A Survey of Surface Mount Device Placement Machine Optimisation: Machine Classification". *European Journal of Operational Research (EJOR)*, Elsevier, 186, pp. 893-914. (**Q1 journal; impact factor 2.158**).

(Before 2008)

13. **Masri Ayob** and Graham Kendall (2005). "A Triple Objective Function with a Chebychev Dynamic Point Specification Approach to Optimise the SMD Placement Machine". *European Journal of Operational Research (EJOR)*, Elsevier, 164, pp. 609-626 (**Q1 journal; impact factor 2.158, 5-year impact factor:2.5**).

Scopus Journals (21)

(2008-2014)

14. Anas Scopus paper
15. Mohammad Mobasher Kashani and Masri Ayob (2014), "Reduction Operators for Magnetic Optimization Algorithm", *Journal of Applied Sciences*, 14(24), pp. 3446-3454. DOI: 10.3923/jas.2014.3446.3454.
16. Anas Arram, Masri Ayob and Mohammad Zakree (2014), "Comparative Study of Meta-Heuristic Approaches for Solving Traveling Salesman Problems", *Asian Journal of Applied Sciences*, 7(7), pp. 662-670, DOI: 10.3923/ajaps.2014.662.670
17. Masri Ayob, Mohd Zakree Ahmad Nazri, Tri Basuki Kurniawan, Yang Xiao Fei, Esam Taha Yassen (2014). "A Constructive Heuristic for Discreet Berth Allocation Problems", *IJACT: International Journal of Advancements in Computing Technology*, 6(2), pp.31-36.
18. Noora Hani Abdulmajeed and Masri Ayob (2014). "A Firework Algorithm for Solving Capacitated Vehicle Routing Problem", *International Journal of Advancements in Computing Technology*, 6(1), pp.79-86.
19. Hamzah Ali Alkhazaleh, Masri Ayob, Zalinda Othman and Zulkifli Ahmad (2013), "Diversity Measurement for a Solution of Team Orienteering Problem", *International Journal of Advancements in Computing Technology*, 5(16), pp.21-28.
20. Hassan Y.Tarawneh and Masri Ayob (2013). "Adaptive Neighbourhoods Structure Selection Mechanism in Simulated Annealing for Solving University Course Timetabling Problems". *Journal of Applied Sciences*, 13(7), pp. 1087-1093.
21. Hassan Y. Tarawneh, Masri Ayob and Zulkifli Ahmad (2013). "A Hybrid Simulated Annealing with Solutions Memory for Curriculum-Based Course Timetabling Problem". *Journal of Applied Sciences*, 13(2), pp. 262-269.
22. Esam Taha Yassen, Masri Ayob, Mohd Zakree Ahmad Nazri and Zulkifli Ahmad (2013). "Harmony Search Algorithm for Vehicle Routing Problem with Time Windows", *Journal of Applied Sciences*, 13(4), pp. 633-638. (DOI:10.3923/jas.2013.633.638).
23. Masri Ayob, Mohd Zakree Ahmad Nazri, Suhaila Zainuddin and Tri Basuki. 2013. "Component Pick-and-Place Scheduling for Surface Mount Device Placement Machine", *International Journal of Soft Computing*, 8(1), 29-41. (DOI: 10.3923/ijscmp.2013.29.41).
24. Masri Ayob, Mohammed Hadwan, Mohd. Zakree Ahmad Nazri and Zulkifli Ahmad (2013) "Enhanced Harmony Search Algorithm for Nurse Rostering Problem", *Journal of Applied Sciences*, 13(6), pp.846-853.

25. Hamzah Ali Alkhazaleh, **Masri Ayob**, Zalinda Othman and Zulkifli Ahmad (2013), "Constructive Heuristics for Team Orienteering Problems", *Journal of Applied Sciences*, 13(6), pp.876-882.
26. Rafidah Abdul Aziz, **Masri Ayob**, Zalinda Othman and Hafiz Mohd Sarim (2013), "Adaptive Guided Variable Neighborhood Search, *Journal of Applied Sciences*", 13(6), pp. 883-888.
27. **Masri Ayob**, Mohd Zakree Ahmad Nazri and Yang Xiao Fei, (2013). "Local Search Heuristics for the One Dimensional Bin Packing Problems", *Journal of Applied Sciences*, 13(6), pp. 919-923.
28. Mohd Zakree Ahmad Nazri, **Masri Ayob** and Esam Taha Yassen (2013). "Evolutionary Iterated Local Search for Rough Set Attribute Reduction Problems", *International Journal of Advancements in Computing Technology*, 5(10), pp.200-208.
29. Yang Xiao Fei, **Masri Ayob**, Mohd Zakree Ahmad Nazri and Zulkifli Ahmad (2013). "A Hierarchical Approach for Assigning Examinations to Timeslots and Rooms: A Case Study", *Journal of Engineering and Applied Sciences*. 8(2), pp.69-72.
30. Ghaith M. Jaradat and **Masri Ayob**. (2013). Effect of Elite Pool and Euclidean Distance in Big Bang-Big Crunch metaheuristic for Post-Enrolment Course Timetabling Problems, *International Journal of Soft Computing*, 8(2), pp. 96-107.
31. Hassan Y. Tarawneh, **Masri Ayob** and Zulkifli Ahmad (2013). "Simulated Annealing with Dynamic Initial Temperatures for University Course Timetable Problem", *Journal of Engineering and Applied Sciences*, 8(2), pp.58-63.
32. Ghaith M. Jaradat, **Masri Ayob** and, Zulkifli Ahmad (2013). "Scatter Search metaheuristic for Post-Enrolment Course Timetabling Problems: A Review", *IJACT: International Journal of Advancements in Computing Technology*, 5(11), pp.118-125.
33. Mohd Zakree Ahmad Nazri, M. Daman Huri, Azuraliza Abu Bakar, Salwani Abdullah, **Masri Ayob** and Tri Basuki Kurniawan (2013). "DNA Sequence Design Using Artificial Immune Systems", *Journal of Engineering and Applied Sciences*, 8(2), pp.49-57.
34. **Masri Ayob** and Mohd Zakree Ahmad Nazri (2012). "Improving the throughput of component placement machines by nozzle optimisation", *International Journal of Systems Signal Control and Engineering Application*, 5(2), pp. 31-46.
35. Ariff Md Ab Malik, **Masri Ayob**, Abdul Razak Hamdan and Zulkifli Ahmad. 2013. An Adaptive Switcher Mechanism of Integrated Two-stage Multi-neighbourhood Tabu Search for University Examination Timetabling Problems, *Research Journal of Applied Sciences*, 8(3),

152-160.

36. Hamzah Ali Alkhazaleh, **Masri Ayob** and Zulkifli Ahmad. 2013. Scatter Search for Solving Team Orienteering Problem, *Research Journal of Applied Sciences*, 8(3), 181-190.
37. **Masri Ayob**, Mohammed Hadwan and Hafiz Mohd Sarim. 2013. The Harmony Search Algorithms in Solving Combinatorial Optimization Problems, *Research Journal of Applied Sciences*, 8(3), 191-198.

Accepted ISI Journals (1)

38. Esam Taha Yassen, **Masri Ayob**, Mohd Zakree Ahmad Nazri and N. R. Sabar (2014). "A Hybrid Meta-heuristic Algorithm for Vehicle Routing Problem with Time Windows", Accepted by *International Journal on Artificial Intelligence Tools (IJAIT)*. IF: 0.321 (Q4).

Refereed Journals (11)

(2008-2014)

39. **Masri Ayob**, Mohd Zakree Ahmad Nazri, Abdul Razak Hamdan, Erna Budhiarti Nababan and Hafiz Mohd Sarim (2011). "State-Of-The-Art on Reactive Search", *Journal of Computer Science and Network Security* Vol. 11 No. 10 pp. 196-200.
40. Rafidah Abdul Aziz, **Masri Ayob** and Zalinda Othman (2011), " A Case Study of Practical Course Timetabling Problems", *Journal of Computer Science and Network Security* Vol. 11, no 10, pp. 152-155.
41. **Masri Ayob** and Ariff Md Ab Malik (2011), "A New Model for an Examination-Room Assignment Problem", *Journal of Computer Science and Network Security*, Vol. 11, no 10, pp 187-190.
42. Ghaith Jaradat and **Masri Ayob** (2011). "A Comparison between Hybrid Population-based Approaches for solving Post-Enrolment Course Timetabling Problems", *Journal of Computer Science and Network Security* Vol. Vol. 11, no 11. Pp. 116-123.
43. Anmar Abuhamdah and **Masri Ayob** (2009), "Experimental Result of Particle Collision Algorithm for Solving Course Timetabling Problems", *International Journal of Computer Science and Network Security* Vol. 9 No. 9 pp. 134-142.

(Before 2008)

44. **Masri Ayob**, Salwani Abdullah and Ariff Md Ab Malik (2007). "A Practical Examination

Timetabling Problem at the Universiti Kebangsaan Malaysia", *International Journal of Computer Science and Network Security*, 7(9), pp. 198-204.

45. **Masri Ayob** (2007). "A Variable Neighbourhood Search for Component Pick-and-Place Sequencing in Printed Circuit Board Assembly", *International Journal of Computer Science and Network Security*, 7(7), pp. 184-193.
46. Rosilah Hassan, Juhana Salim, Syahanim Mohd Salleh, Zarina Shukur, **Masri Ayob**, Abdullah Mohd Zin and Mohd Shahizan Othman. (2004). "Reka Bentuk Sistem Pusat Sumber Digital FTSM". *Jurnal Teknologi Maklumat dan Multimedia*, 1, pp 35-52.
47. Mohd Shahizan Othman, Zarina Shukur, Juhana Salim and **Masri Ayob**. (2002). "Penghasilan Nombor Cutter Secara Automatik Meliputi Pengarang Melayu". *Jurnal Teknologi Maklumat*, 14(1), pp 81-99.
48. Mohd Shahizan Othman, Zarina Shukur, Juhana Salim and **Masri Ayob**. (2002). "Penghasilan Nombor Pengkelasan Secara Automatik". *Jurnal Antarabangsa Teknologi Maklumat*, 2, pp 65-81.
49. Mohammad Faidzul Nasrudin, Khairuddin Omar, **Masri Ayob** and Miswan Surip. (2001). "Stock Price Prediction in KLSE Using Neural Networks". *Jurnal Antarabangsa Teknologi Maklumat*, 1, pp 91-106.

Book Chapter (4)

(2008-2014)

50. Zulaiha Ali Othman, Abdul Razak Hamdan, Azuraliza Abu Bakar, Suhaila Zainudin, Hafiz Mohd Sarim, Mohd Zakree Ahmad Nazri, Zalinda Othman, Salwani Abdullah, **Masri Ayob** and Ahmad Tarmizi Abdul Ghani (2011), MYNDA - An intelligent data mining application generator, *Lecture Notes in Computer Science (including subseries Lecture Notes in Artificial Intelligence and Lecture Notes in Bioinformatics)*, 7067 LNCS(PART 2), 217-230.
51. Ghaith Jaradat and **Masri Ayob** (2010), An Elitist-Ant System for Solving the Post-Enrolment Course Timetabling Problem, In *Database Theory and Application, Bio-Science and Bio-Technology, Communications in Computer and Information Science*, LNCS 2010, Volume 118, 167-176.
52. Nasser R. Sabar, **Masri Ayob**, Graham Kendall and Rong Qu. (2009). Roulette wheel graph colouring for solving examination timetabling problems. In the proceedings of the 3rd Annual International Conference on Combinatorial Optimization and Applications (COCOA'09), June 10-12, 2009, Yellow Mountains, China. *Lecture Notes in Computer Science*. LNCS 5573, pp. 463-470, 2009. Springer-Verlag Berlin, Heidelberg 2009.

(Before 2008)

53. **Masri Ayob**, Ariff Md Ab Malik, Salwani Abdullah, Abdul Razak Hamdan, Graham Kendall, and Rong Qu (2007). "Solving a Practical Examination Timetabling Problem: A Case Study". In O. Gervasi and M. Gavrilova (Eds.): ICCSA 2007, Lecture Notes In Computer Science (LNCS) 4707, Part III, Springer-Verlag Berlin Heidelberg, pp. 611-624.

International Proceeding (48)

(2008-2014)

54. Nasser R. Sabar, **Masri Ayob** and Graham Kendall (2014), An Exponential Monte-Carlo Local Search Algorithm for the Berth Allocation Problem. The 10th International Conference of Practice and Theory of Automated Timetabling, PATAT2014, 26-29 Aug, 2014, York, United Kingdom, pp. 544-548.
55. Nasser R. Sabar, **Masri Ayob** and Graham Kendall (2013), A Hybrid of Differential Evolution and Simulated Annealing Algorithms for the Capacitated Arc Routing Problems, Proc. of the 6th Multidisciplinary International Conference on Scheduling: Theory and Applications, MISTA2013, Gent, Belgium, 27-30 Aug, 2013, pp. 549-554.
56. Rafidah Abdul Aziz, **Masri Ayob**, Zalinda Othman (2012), The Effect of Learning Mechanism in Variables Neighborhood Search, The 2012 4th Conference on Data Mining and Optimization (DMO12), Langkawi, Malaysia 2-4 Sept. 2012, pp. 109-113.
57. Esam Taha Yassen, **Masri Ayob**, Mohd Zakree Ahmad Nazri and Nasser R. Sabar (2012). Multi-Parent Insertion Crossover for Vehicle Routing Problem with Time Windows. The 2012 4th Conference on Data Mining and Optimization (DMO12), Langkawi, Malaysia 2-4 Sept. 2012, pp. 103-108.
58. Hasan Tarawneh and **Masri Ayob** (2011), Using Tabu search with multi-neighborhood structures to solve University Course Timetable UKM case study (faculty of engineering), 3rd Conference on Data Mining and Optimization (DMO2011), pp. 208 - 212.
59. Mouna Jamom, **Masri Ayob**, Mohamed Hadwan (2011), A greedy constructive approach for Nurse Rostering Problem, 3rd Conference on Data Mining and Optimization (DMO2011), pp. 227 - 231.
60. **Masri Ayob**, Ghaith M. Jaradat, Abdul Razak Hamdan, Hafiz Mohd Sarim; Mohd Zakree Ahmad Nazri (2011), "Solving the viva presentations timetabling problem: A case study at FTSM-UKM", International Conference on Electrical Engineering and Informatics (ICEEI 2011), pp. 1-4.
61. Ebtisam Sharif, **Masri Ayob** and Mohamed Hadwan (2011), "Hybridization of heuristic

- approach with variable neighborhood descent search to solve nurse Rostering problem at Universiti Kebangsaan Malaysia Medical Centre (UKMMC)", 3rd Conference on Data Mining and Optimization (DMO2011), pp. 178-183.
62. Mohamed Abdo Salleh Hadwan and Masri Ayob (2011), A semi-cyclic shift patterns approach for nurse rostering problems, 3rd Conference on Data Mining and Optimization (DMO2011), pp. 184 - 189.
 63. Reema A. Abobaker, Masri Ayob and Mohamed Hadwan (2011), "Greedy constructive heuristic and local search algorithm for solving Nurse Rostering Problems", 3rd Conference on Data Mining and Optimization (DMO2011), pp.194 - 198 <http://ieeexplore.ieee.org>
 64. Anmar Abuhamdah and Masri Ayob (2011), "MPCA-ARDA for solving course timetabling problems", 3rd Conference on Data Mining and Optimization (DMO2011), pp. 171 - 177.
 65. Ariff Md Ab Malik, Abdul Kadir Othman, Masri Ayob and Abdul Razak Hamdan (2011), "Hybrid integrated two-stage multi-neighbourhood tabu search-EMCQ technique for examination timetabling problem", 3rd Conference on Data Mining and Optimization (DMO2011), pp. 17 - 21.
 66. Ghaith Jaradat and Masri Ayob (2011), "Scatter search for solving the course timetabling problem", 3rd Conference on Data Mining and Optimization (DMO2011), pp. 213 - 218.
 67. **Masri Ayob**, Abdul Razak Hamdan, Salwani Abdullah, Zalinda Othman, Mohd Zakree Ahmad Nazri, Kiftiah Abd Razak, Rohana Tan, Norashikin Baharom, Hilmiah Abd Ghafar, Rashidah Md Dali and Nasser R Sabar (2011). "Intelligent Examination Timetabling Software" *Procedia Social and Behavioral Sciences*, Vol. 18, pp. 600-608 (impact factor 0.4, Publisher: Elsevier).
 68. Mohamed Abdo Salleh Hadwan and Masri Ayob (2010), "A Constructive Shift Patterns Approach with Simulated Annealing for Nurse Rostering Problem", in 4th international Symposium on Information Technology (ITSim2010). Vol. 1 Kuala Lumpur Convention Center, Kuala Lumpur, Malaysia: IEEE, 2010, pp. 215-220.
 69. Anmar Abuhamdah and Masri Ayob (2010). "Average Late Acceptance Randomized Descent Algorithm for Solving Course Timetabling Problems", *Proceeding in 2010 4th International Symposium on Information Technology (ITSim2010)*, Volume 2, 15-17 Jun 2010, Selangor, Malaysia, IEEE, pp. 748-753, 2010.
 70. Ghaith Jaradat and Masri Ayob (2010), "Big Bang-Big Crunch Optimization Algorithm to Solve the Course Timetabling Problem". *Proc. Of 10th International Conference on Intelligent Systems Design and Applications*, IEEE, ISDA 2010, pp.1448-1452. ISBN: 9781424481347.
 71. Anmar Abuhamdah and Masri Ayob. "Adaptive Randomized Descent Algorithm Using

- Round Robin for Solving Course Timetabling Problems". Proc. Of 10th International Conference on Intelligent Systems Design and Applications, IEEE, ISDA 2010, pp.1201-1206. ISBN: 9781424481347
72. Ariff Md Ab Malik, Masri Ayob and Abdul Razak Hamdan (2010). "Stratified Random Sampling Technique for Integrated Two-Stage Multi-Neighbourhood Tabu Search for Examination Timetabling Problem". Proc. Of 10th International Conference on Intelligent Systems Design and Applications, IEEE, ISDA 2010, pp.1326-1331. ISBN: 9781424481347.
 73. Nasser R. Sabar, Masri Ayob and Graham Kendall (2009). "Solving Examination Timetabling Problem using Honey-bee Mating Optimization". In proceeding of 4th Multidisciplinary International Scheduling: Theory and Applications (MISTA 2009), 10-12 August 2009, pp. 399-408, Dublin, Ireland
 74. Nasser R. Sabar, Masri Ayob and Graham Kendall (2009). "Tabu Exponential Monte-Carlo with Counter Heuristic for Examination Timetabling". Proc of the 2009 IEEE Symposium on Computational Intelligence in Scheduling (CI-Sched 2009), Nashville, TN, USA, pp. 90-94.
 75. Nasser R. Sabar and Masri Ayob (2009). "Examination timetabling using Scatter search hyper-heuristics". In Proceeding of the second conference on Data Mining and Optimization (DMO'09). 27-28 Oct, pp. 127-131, Universiti Kebangsaan Malaysia.
 76. Anmar Abuhamdah and Masri Ayob (2009), "Multi-Neighbourhood Particle Collision Algorithm for solving course timetabling problems", 2nd Conference on Data Mining and Optimization (DMO '09), 27-28 Oct. 2009 pp.21-27.
 77. Mohammed Hadwan and Masri Ayob (2009). "An exploration study of nurse rostering practice at Hospital Universiti Kebangsaan Malaysia", 2nd Conference Data Mining and Optimization, 2009. DMO '09, 27-28 Oct. 2009 pp.100 - 107.
 78. Anmar Abuhamdah and Masri Ayob (2009), "Hybridization Multi-Neighbourhood Particle Collision Algorithm and Great Deluge for solving course timetabling problems". 2nd Conference on Data Mining and Optimization, 2009. DMO '09, Residence Hotel, Selangor, Malaysia, 27-28 Oct. 2009, pp. 108 - 114.
 79. Ghaith Jaradat and Masri Ayob (2009). "Hybrid Ant Colony systems for course timetabling problems", 2nd Conference on Data Mining and Optimization, 2009. DMO '09. Residence Hotel, Selangor, Malaysia, 27-28 Oct. 2009, pp. 120 - 126.
 80. Md Ariff Abd Malik, Masri Ayob and Abdul Razak Hamdan (2009). "Iterated two-stage multi-neighbourhood tabu search approach for examination timetabling problem". 2nd Conference on Data Mining and Optimization, 2009. DMO '09. Residence Hotel, Selangor, Malaysia, 27-28 Oct. 2009, pp. 141-148.

81. Ahmed Oughalime, Wan Rosmanira Ismail, Liong Choong-Yeun and Masri Ayob (2009). "Vehicle and driver scheduling modelling: A case study in UKM". 2nd Conference on Data Mining and Optimization, 2009. DMO '09. Residence Hotel, Selangor, Malaysia, 27-28 Oct. 2009, pp. 53 - 59.
82. Nasser R. Sabar and Masri Ayob (2008). Solving Examination Timetabling Problems using Exponential Monte-Carlo with Counter Heuristics. In: Proceeding of the 2008 first conference on Data Mining and Optimization (DMO'08). 3-4 Dec, pp.16-20. Universiti Kebangsaan Malaysia.
83. Mukti Kamal and Masri Ayob (2008). "A New Model for Examination Room Assignment Problem: Case Study at University Kebangsaan Malaysia". Proc. Of the International Symposium on Information Technology (ITSim2008), Kuala Lumpur, Malaysia, pp.1193-1198.
84. Ruzzakiah Jenal, Wan Rosmanira, Liong Choong Yeun And Masri Binti Ayob (2008), "Modelling Nurse Rostering Using A 0-1 Goal Programming: A Case Study In HUKM" The 3th International Conference On Mathematics And Statistics (Icoms-3), Institut Pertanian Bogor, Indonesia.Pp:1-23.

(Before 2008)

85. Masri Ayob (2007). "An On-line Constructive Heuristic to Optimise the Hybrid Pick and Place Machine". Proc. Of the International Conference on Electrical Engineering and Informatics (ICEEI2007), Bandung, Indonesia, pp. 589-592.
86. Mohd Nizam Mohmad Kahar and Masri Ayob (2007). "Resource Estimation for Optimized Allocation of Course Timetabling". Proc. Of the International Conference on Electrical Engineering and Informatics (ICEEI2007), Bandung, Indonesia, pp. 578-581.
87. Ariff Md Ab Malik, Masri Ayob, and Abdul Razak Hamdan (2007). "A Heuristic for Scheduling Examination to Room Based on Exam Length Duration". Proc. Of the International Conference on Electrical Engineering and Informatics (ICEEI2007), Bandung, Indonesia, pp. 586-588.
88. Ruzzakiah Jenal, Wan Rosmanira Ismail, Liong Choong Yuen, Masri Ayob, Mohd Kairi Muda (2007). "Aplikasi Pengaturcaraan Gol 0-1 dalam Penjadualan Jururawat". Proc. Of the International Conference on Mathematical Sciences 2007 (ICMS07), UKM Bangi, Selangor, Malaysia, pp. 511-521.
89. Masri Ayob, Edmund Burke and Graham Kendall (2006). "An Iterative Re-start Variable Neighbourhood Search for the Examination Timetabling Problem". Proc. of the 6th International Conference on the Practice and Theory of Automated Timetabling (PATAT), Brno, Czech Republic, pp. 336-344.

90. Masri Ayob and Graham Kendall (2004). "A Nozzle Selection Heuristic to Optimise the Hybrid Pick and Place Machine". Proc. of the 2004 IEEE Conference on Cybernetics and Intelligent Systems, CIS2004, Singapore, pp 1259-1264.
91. Masri Ayob and Graham Kendall (2003). "A Monte Carlo Hyper-Heuristic To Optimise Component Placement Sequencing For Multi Head Placement Machine". Proc. of the International Conference on Intelligent Technologies, InTech'03, Chiang Mai, Thailand, pp 132-141.
92. Masri Ayob and Graham Kendall (2003). "An Investigation of an Adaptive Scheduling for Multi Headed Placement Machines Using a Greedy Search". Proc. of the 1st Multidisciplinary International Conference on Scheduling: Theory and Applications, MISTA 2003, Nottingham, UK, pp 363-380.
93. Masri Ayob and Graham Kendall (2003). "Real-time Scheduling for Multi Headed Placement Machine". Proc. of the 2003 IEEE International Symposium on Assembly and Task Planning (ISATP2003), Besançon, France, pp 128-133.
94. Masri Ayob and Graham Kendall (2002). "A new dynamic point specification approach to optimise surface mount placement machine in printed circuit board assembly", Proc. of the IEEE ICIT'02, Bangkok, pp 486-491.
95. Masri Ayob, Peter Cowling and Graham Kendall (2002). "Optimisation for Surface Mount Placement Machines", Proc. of the IEEE ICIT'02, Bangkok, 498-503.
96. Masri Ayob, Juhana Salim, Zarina Shukur and Mohd. Shahizam Othman (2001). "Automatic Cataloguing and Classification System", in Proc. of The International Symposium on Information System and Engineering (ISE'2001), Las Vegas, USA, pp 385-391.
97. Mohammad Faidzul Nasrudin, Masri Ayob, Khairuddin Omar and Miswan Surip (2001). "KLSE Stock Price Prediction Using Neural Networks With Sector Indices Consideration" in PROC. OF SCORed 2001, paper No. 121.
98. Masri Ayob, Mohd. Faidzul Nasrudin, Khairuddin Omar and Miswan Surip (2001). "The Effect of Return Function on Individual Stock Price (KLSE) Prediction Model Using Neural Networks." in Proc. of The International Conference on Artificial Intelligence, IC-AI'2001, Las Vegas, USA, pp 409-415.
99. Masri Ayob, Kalaivani Chellapan and Nazlena Mohamad Ali (2001). "Intelligent Tutoring Tool For Digital Logic Design Course (ITDiL)". in Proc. of International Conference on Electrical and Electronic Technology (IEEE TENCON 2001), Cruise Ship Superstar Virgo (Singapore).
100. Masri Ayob, Kalaivani Chelappan, Abdullah Mohd Zin and Rosilah Hassan (2000). "Sigma Solution Digital Designer and Simulator," in Proc. Of the 2nd International Conference On

Advances And Strategic Technologies (ICAST2000), pp 1709-1714.

101. Abdullah Mohd Zin , Masri Ayob, Kalaivani Chelappan, Suhaila Zainuddin and Rosilah Hassan (2000). "A Computer Aided Learning Software for Digital Logic Design" in Proc. Of International Forum Cum Conference On Information Technology And Communication At The Dawn Of The New Millennium, Bangkok, Thailand, pp 629-637,

Conference paper (2)

102. Ruzzakiah Jenal, Wan Rosmanira Ismail, Liong Choong Yeun dan Masri Binti Ayob (2011),Perbandingan pengaturcaraan gol 0-1 dan pengaturcaraan rangkaian model penjadualan jururawat, Kolokium Siswazah Ke11 Fakulti Sains Dan Teknologi
103. Ariff Md Ab Malik, Masri Ayob, Abdul Razak Hamdan, Salwani Abdullah, Graham Kendall, Edmund Burke and Rong Qu (2007). "A New Model for an Examination-Room Assignment Problem". Eight Workshop on Models and Algorithms for Planning and Scheduling Problems (MAPSP), Istanbul, Turkey, July 2-6.

ISI/High Impact Journals (under review)

1. Esam Taha Yassen, Masri Ayob, Mohd Zakree Ahmad Nazri and Nasser R. Sabar (2012). Meta-Harmony Search Algorithm for Vehicle Routing Problem with Time Windows. submitted to Computer and operational research journal. Elsevier. Q1.
2. Esam Taha Yassen, Masri Ayob, Mohd Zakree Ahmad Nazri and Nasser R. Sabar (2013). The effects of Hybridizing Different Local Search with Harmony Search Algorithm for the Vehicle Routing Problem with Time Windows. submitted to Expert System With Application journal. Elsevier. Q1.
3. Masri Ayob, Mohammed Hadwan, Nasser R. Sabar and Mohd Zakree Ahmad Nazri. (2013). Enhanced Harmony Search Algorithm for Nurse Rostering Problem. Submitted to Expert System with Application journal. Elsevier. Q1.

INNOVATIONS / IP PROTECTION

Copyright:

1. Intelligent Scheduler (InScheduler) UKM3.2.29/108/2/501 (application)
2. eReP TM - SISTEM E-REPOSITORI PENERBITAN UKM3.2.29/108/2/206 (certified)

Trademark:

1. Intelligent Scheduler (InScheduler) UKM3.2.29/108/2/501 (certified)

2. eReP TM - SISTEM E-REPOSITORI PENERBITAN UKM3.2.29/108/2/206 (certified)
3. C -TEST TM - SISTEM PENILAIAN PENGAJARAN KURSUS (C-DAS TM - SISTEM PENILAIAN PENGAJARAN KURSUS) UKM3.2.29/108/2/205 (certified)

RESEARCH GRANTS

***Project Leader (Total Amount: RM433,844): 2008-2014**

| | Title | Duration (year) | Sponsor | Researchers | Amount |
|---|---|-----------------------------|--|-------------------|-----------|
| 1 | Solving Combinatorial Optimisation with Aoristic Problems Using Hyper-Heuristic Approaches DIP-2014-039 | 2 (1/02/2015-31/01/2017) | Research University - Dana Impak Perdana | Masri Ayob et al. | RM200,000 |
| | Hyper-Heuristics Approaches For Police Patrol Routing And Rostering Problems ERGS/1/2013/ICT02/UKM/02/3 | 2 (20/5/2013-19/5/2015) | ERGS (Ministry of Education) | Masri Ayob et al. | RM88,400 |
| 2 | Optimizing Port And Logistic Solutions For Container Terminal: A Simulation Study On Westports INDUSTRI-2013-034 | 1 (10/5/2013-9/5/2014) | UKM | Masri Ayob et al. | RM 25,000 |
| 3 | Nature-Inspired Cooperative Hyper-Heuristics Based On Honey-Bee Mating Algorithm: A New Hyper-Heuristic Framework FRGS/1/2012/SG05/UKM/02/11 | 2 (4/4/2012-3/4/2014) | FRGS (Ministry of Education) | Masri Ayob et al. | RM99,000 |
| 4 | Searching For Solutions Methods: Cartesian Genetic Programming Hyper-Heuristics UKM-GUP-2011-233 | 1 (8/8/2011-7/8/2012) | GUP, UKM | Masri Ayob et al. | RM30,000 |
| 5 | Reactive Search For Solving Real-World Timetabling Problem UKM-TT-02-FRGS0121-2009 | 2 (1/11/2009-31/10/2011) | FRGS (Ministry of Education) | Masri Ayob et al. | RM50,000 |
| 6 | Intelligent Examination Timetabling Software UKM-PTS-011-2009 | 2 (1/7/2009-31/7/2011) | Research University Fund, UKM | Masri Ayob et al. | RM50,000 |
| 7 | A Dynamic Automated Scheduler Using Meta-Heuristic Approach 01-01-02-SF0331 | 2(1/10/2007-30/9/2009) | MOSTE (E-SCIENCE FUND) | Masri Ayob et al. | RM63,000 |

PROF. DR. MASRI AYOB

Email: masri@ukm.edu.my
 http://www.ftsm.ukm.my/masri

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| 8 | Multiobjective Heuristics For Real-World Scheduling Problem UKM-TT-02-FRGS0019-2006 | 2 (1/3/2007 - 31/8/2009) | FRGS (Ministry of Education) | Masri Ayob et al. | RM28,444 |
|---|--|--------------------------|------------------------------|-------------------|----------|

Project Member (2008-2014): (Total Amount: RM1,833,200): 2008-2014

| | Title | Duration (year) | Sponsor | Researchers | Amount |
|----|--|---------------------------|------------------------------|------------------------------|---------|
| 1 | An Adaptive Hybrid Optimization Based Timber Harvest planning Model (ERGS/1/2011/STG/UKM/02/52) | 2 (21/6/2011-20/6/2013) | ERGS (Ministry of Education) | Salwani Abdullah, et al. | 88,000 |
| 2 | Dana Operasi Universiti Penyelidikan DPP-2013-004 | 1(1/1/13-31/3/14) | UKM | Abdul Razak Hamdan et al. | 60,000 |
| 3 | Projek Arus Perdana UKM-AP-ICT-19-2010 | (1/10/2010-31/05/2013) | UKM | Abdul Razak Hamdan et al. | 340,000 |
| 4 | Dana Operasi Universiti Penyelidikan OUP-2012-171 | 1 (1/1/2012-31/1/2012) | UKM | Abdul Razak Hamdan et al. | 50,000 |
| 5 | Dana Operasi Universiti Penyelidikan UKM-OUP-ICT-34-175/2011 | 1 (1/1/2011-31/1/2011) | UKM | Abdul Razak Hamdan et al. | 45,000 |
| 6 | Dana Operasi Universiti Penyelidikan UKM-OUP-ICT-34-175/2010 | 1 (1/1/2010-31/1/2010) | UKM | Abdul Razak Hamdan etc. | 50,000 |
| 7 | Dana Operasi Universiti Penyelidikan UKM-OUP-ICT-35-174/2009 | 1 (1/1/2009-31/1/2009) | UKM | Abdul Razak Hamdan etc. | 50,000 |
| 8 | Dana Operasi Universiti Penyelidikan UKM-OUP-NBT-30-154/2008 | 1 (1/6/2008-31/3/2009) | UKM | Abdul Razak Hamdan etc. | 84,400 |
| 9 | Intelligent Medical Data Miner UKM-GUP-TMK-07-02-033 | 3 ½ (1/10/2007-31/3/2011) | UKM | Abdul Razak Hamdan etc. | 700,000 |
| 10 | <u>Kajian pembentukan indeks keefisienan bandaraya utama Semenanjung Malaysia.</u> (06-01-02-SF0357) | 1 ½(1/08/2007-31/7/2010) | MOSTE | *Hamzah bin Jusoh, et al. | 189,600 |
| 11 | An Agent Based Rough Set Data Mining Tool (01-01-02-SF0009) | 1 ½(1/12/2006-30/10/2008) | MOSTE | *Azuraliza Abu Bakar, et al. | 176,200 |

CONSULTATION

| | Consultation | Place | Customer | Duration (month) | Year |
|---|--|-------|---------------------------|------------------|-----------|
| 1 | Sistem Pengurusan Sukan | UKM | Majlis Perbandaran Kelang | 12 month | 2007/2008 |
| 2 | MIMOS-PPK Area Traffic Light Management System | MIMOS | Turkey Government | 12 month | 1995 |
| 3 | Smart Lamp Microcontroller System | MIMOS | Noval SmartLamp Sdn Bhd | 2 month | 1994 |

CONFERENCE PARTICIPATION

- 6 workshops (invited speaker/facilitator/evaluator)
- 46 conferences

Invited Speaker/Keynote Speaker/ Plenary Speaker/Facilitator/Evaluator (2008-2014)

1. Bengkel Penulisan dan Penerbitan Jurnal Berimpak Tinggi Siri Kedua, (2015), UiTM, Shah Alam.
2. Panel Penilai Bengkel Lonjakan Penerbitan Institut Informatik Visual, (2015), UKM.
3. "Scientific Writing", (2014), Universiti Sultan Zainal Abidin.
4. "Scheduling and Optimization", (2014), UiTM Dungun.
5. "Inspirasi Minda Cemerlang", (2014), SMK Bandar Seri Putra.
6. "Do and Don't in Scientific Writing", August 2014, Industrial Computing Research Group.
7. Evaluator for "Soft Computing Seminar SoCoS 2013) in Conjunction with Postgraduate Annual Research Seminar (PARD 2013), 28-30 May 2013, Soft Computing Research Group, Universiti Teknologi Malaysia.
8. "Best Practice in Reporting Results and Experimental Designs", 6 Jan, 2013, Soft Computing Research Group, Universiti Teknologi Malaysia.
9. "Do and Don't in Scientific Writing", Mac 2012, Multimedia Software Research Group.

10. "Guidelines For Scientific Writing: Do & Don't", November 19-20, 2012, CAIT PostDoctotal Seminar.
11. "Best Practice in Reporting Results and Experimental Designs", The 2012 4th Conference on Data Mining and Optimization (DMO12), Langkawi, Malaysia 2-4 Sept. 2012.
12. "Timetabling Issues: State of the Art and AI Research: Current and Future Trend", 17 March 2010, Universiti Teknikal Malaysia, Melaka.

Conferences (2008-2014)

| | Conference/Sponsor | Authors | Role | Paper title | Date | Place |
|----|--|--|-----------|---|------------------|----------------------|
| 1. | The 10th International Conference of Practice and Theory of Automated Timetabling, (PATAT2014) | Nasser R. Sabar, Masri Ayob and Graham Kendall | Presenter | An Exponential Monte-Carlo Local Search Algorithm for the Berth Allocation Problem. | 26-29 Aug, 2014, | York, United Kingdom |
| 2. | The 6th Multidisciplinary International Scheduling: Theory and Applications (MISTA 2013) -FRGS | Nasser R. Sabar, Masri Ayob and Graham Kendall | Presenter | A Hybrid of Differential Evolution and Simulated Annealing Algorithms for the Capacitated Arc Routing Problems, | 27-30 Aug. 2013 | Gent, Belgium. |
| 3. | 4 th Conference on Data Mining and Optimization/UKM -FRGS fund | Rafidah Abdul Aziz, Masri Ayob, Zalinda Othman | presenter | The Effect of Learning Mechanism in Variables Neighborhood Search | 2-4 Sept. 2012 | Langkawi |
| 4. | 4 th Conference on Data Mining and Optimization/UKM | Esam Taha Yassen, Masri Ayob, | presenter | Multi-Parent Insertion Crossover for Vehicle Routing Problem with | 2-4 Sept. 2012 | Langkawi |

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| | -FRGS fund | Mohd Zakree Ahmad Nazri and Nasser R. Sabar. | | Time Windows. | | |
| 5. | 3 rd Conference on Data Mining and Optimization -FRGS fund | - | Co-Chair | - | 27-29 June, 2011 | Pullman Hotel, Putrajaya |
| 6. | 3 rd Conference on Data Mining and Optimization -FRGS fund | Ghaith Jaradat and Masri Ayob | presenter | Scatter search for solving the course timetabling problem | 27-29 June, 2011 | Pullman Hotel, Putrajaya |
| 7. | 3 rd Conference on Data Mining and Optimization -PTS fund | Ariff Md Ab Malik, Abdul Kadir Othman, Masri Ayob and Abdul Razak Hamdan | presenter | Hybrid integrated two-stage multi-neighbourhood tabu search-EMCO technique for examination timetabling problem | 27-29 June, 2011 | Pullman Hotel, Putrajaya |
| 8. | 3 rd Conference on Data Mining and Optimization -PTS fund | Anmar Abuhamdah and Masri Ayob | presenter | MPCA-ARDA for solving course timetabling problems | 27-29 June, 2011 | Pullman Hotel, Putrajaya |
| 9. | 3 rd Conference on Data Mining and Optimization -FRGS fund | Reema A. Abobaker, Masri Ayob and Mohamed Hadwan | presenter | Greedy constructive heuristic and local search algorithm for solving Nurse Rostering Problems | 27-29 June, 2011 | Pullman Hotel, Putrajaya |
| 10. | 3 rd Conference on Data Mining and Optimization | Mohamed Abdo Salleh Hadwan | presenter | A semi-cyclic shift patterns approach for nurse rostering | 27-29 June, 2011 | Pullman Hotel, Putrajaya |

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| | -FRGS fund | and Masri Ayob | | problems | | |
| 11. | 3 rd Conference on Data Mining and Optimization -FRGS fund | Ebtisam Sharif, Masri Ayob and Mohamed Hadwan | presenter | Hybridization of heuristic approach with variable neighborhood descent search to solve nurse Rostering problem at Universiti Kebangsaan Malaysia Medical Centre (UKMMC) | 27-29 June, 2011 | Pullman Hotel, Putrajaya |
| 12. | 3 rd Conference on Data Mining and Optimization -FRGS fund | Mouna Jamom, Masri Ayob, Mohamed Hadwan | presenter | A greedy constructive approach for Nurse Rostering Problem | 27-29 June, 2011 | Pullman Hotel, Putrajaya |
| 13. | 3 rd Conference on Data Mining and Optimization -PTS fund | Hasan Tarawneh and Masri Ayob | presenter | Using Tabu search with multi-neighborhood structures to solve University Course Timetable UKM case study (faculty of engineering) | 27-29 June, 2011 | Pullman Hotel, Putrajaya |
| 14. | International Conference on Electrical Engineering and Informatics (ICEEI 2011) -PTS fund | Masri Ayob, et al. | Presenter | Solving the viva presentations timetabling problem: A case study at FTSM-UKM | July, 2011 | Bandung, Indonesia |
| 15 | Conference on Intelligent Systems Design and Applications | Anmar Abuhamdah and Masri Ayob | Presenter | Adaptive Randomized Descent Algorithm Using Round Robin for Solving Course Timetabling Problems | Nov 29, 2010- Dec 2, 2010 | Cairo, Egypt |

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| | (ISDA2010) -FRGS fund | | | | | |
| 16 | Conference on Intelligent Systems Design and Applications (ISDA2010) -FRGS fund | Ghaith Jaradat and Masri Ayob | Presenter | Big Bang-Big Crunch Optimization Algorithm to Solve the Course Timetabling Problem | Nov 29,2010- Dec2,2010 | Cairo, Egypt |
| 17 | 4th international Symposium on Information Technology (ITSim2010) -FRGS fund | Mohamed Abdo Salleh Hadwan and Masri Ayob | Presenter | A Constructive Shift Patterns Approach with Simulated Annealing for Nurse Rostering Problem | 2010 | Kuala Lumpur Convention Center, Kuala Lumpur, Malaysia |
| 18 | Kongress Pengajaran dan Pembelajaran UKM 2010 - PTS fund | Masri Ayob et al. | Presenter | Intelligent Examination Timetabling Software | Dec, 2010 | Everly Resort Hotel, Melaka. |
| 19 | International Conference on Database Theory and Application, Bio-Science and Bio-Technology, Communications in Computer and Information Science | Ghaith Jaradat and Masri Ayob | Presenter | An Elitist-Ant System for Solving the Post-Enrolment Course Timetabling Problem | December 2010 | Jeju Island, Korea, |
| 20 | The second conference on Data Mining and Optimization (DMO'09) | Nasser R. Sabar and Masri Ayob | Presenter | Examination timetabling using Scatter search hyper-heuristics. | 27-28 Oct. 2009 | Residence Hotel |

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| 21 | The second conference on Data Mining and Optimization (DMO'09) | Anmar Abuhamdah and Masri Ayob | Presenter | Multi-Neighbourhood Particle Collision Algorithm for solving course timetabling problems | 27-28 Oct. 2009 | Residence Hotel |
| 22 | The second conference on Data Mining and Optimization (DMO'09) | Mohammed Hadwan and Masri Ayob | Presenter | An exploration study of nurse rostering practice at Hospital Universiti Kebangsaan Malaysia | 27-28 Oct. 2009 | Residence Hotel |
| 23 | The second conference on Data Mining and Optimization (DMO'09) | Anmar Abuhamdah and Masri Ayob | Presenter | Hybridization Multi-Neighbourhood Particle Collision Algorithm and Great Deluge for solving course timetabling problems | 27-28 Oct. 2009 | Residence Hotel |
| 24 | The second conference on Data Mining and Optimization (DMO'09) | Ghaith Jaradat and Masri Ayob | Presenter | Hybrid Ant Colony systems for course timetabling problems | 27-28 Oct. 2009 | Residence Hotel |
| 25 | The second conference on Data Mining and Optimization (DMO'09) | Md Ariff Abd Malik, Masri Ayob and Abdul Razak Hamdan. | Presenter | Iterated two-stage multi-neighbourhood tabu search approach for examination timetabling problem | 27-28 Oct. 2009 | Residence Hotel |
| 26 | The second conference on Data Mining and Optimization (DMO'09) | Ahmed Oughalime, Wan Rosmanira Ismail, Liong Choong-Yeun and | Presenter | Vehicle and driver scheduling modelling: A case study in UKM | 27-28 Oct. 2009 | Residence Hotel |

PROF. DR. MASRI AYOB

Email: masri@ukm.edu.my
<http://www.ftsm.ukm.my/masri>

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|----|---|--|----------------|---|------------------|---|
| | | Masri Ayob. | | | | |
| 27 | The 4th Multidisciplinary International Scheduling: Theory and Applications (MISTA 2009) -FRGS | Nasser R. Sabar, Masri Ayob and Graham Kendall | Presenter | Solving Examination Timetabling Problem using Honey-bee Mating Optimization | 2009 | 10-12 August 2009, pp. 399-408, Dublin, Ireland |
| 28 | IEEE Symposium on Computational Intelligence in Scheduling (CI-Sched 2009) - Science Fund | Nasser R. Sabar, Masri Ayob and Graham Kendall | Presenter | Tabu Exponential Monte-Carlo with Counter Heuristic for Examination Timetabling | April, 2009 | Nashville, TN, USA |
| 29 | 3rd Annual International Conference on Combinatorial Optimization and Applications (COCOA'09) - Science Fund | Nasser R. Sabar, Masri Ayob, Graham Kendall and Rong Qu. | Presenter | Roulette wheel graph colouring for solving examination timetabling problems | June 10-12, 2009 | China |
| 30 | The second conference on Data Mining and Optimization (DMO'09) | - | Main Committee | - | Oct 2009 | Residence Hotel, Malaysia |
| 31 | The first conference on Data Mining and Optimization (DMO'08) | Nasser R. Sabar and Masri Ayob | Presenter | Solving Examination Timetabling Problems using Exponential Monte-Carlo with Counter Heuristics. | 2008 | FTSM, UKM |
| 30 | The International Symposium on Information | Mukti Kamal and | Presenter | A New Model for Examination Room Assignment Problem: | 2008 | KL |

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|----------------------------------|--|--|-----------|--|-----------------|---|
| | Technology (ITSim2008) - FRGS Fund | Masri Ayob | | Case Study at University Kebangsaan Malaysia | | |
| Conferences (Before 2008) | | | | | | |
| 32 | ICCSA Sponsor: Fakulti Teknologi & Sains Maklumat, UKM. -FRGS Fund | Masri Ayob, Ariff Md Ab Malik, Salwani Abdullah etc. | Presenter | Solving a Practical Examination Timetabling Problem:A Case Study | 26-29 Aug, 2007 | Sunway Resort Hotel, Bandar Sunway, Malaysia. |
| 33 | ICEEI2007 Sponsor: FRGS Fund | Masri Ayob | Presenter | An On-line Constructive Heuristic to Optimise the Hybrid Pick and Place Machine | June, 2007 | Bandung, Indonesia |
| 34 | OR 47 conference | Masri Ayob and Graham Kendall | Presenter | An-online Constructive Heuristic to Optimise a Hybrid Pick and Place Printed Circuit Board Machine. | 13-15 Sep. 2005 | Chester University College, United Kingdom. |
| 35 | The IEEE Conference on Cybernetics and Intelligent Systems, CIS2004. | Masri Ayob and Graham Kendall | Presenter | Nozzle Selection Heuristic to Optimise the Hybrid Pick and Place Machine. | 1-3 Dec, 2004. | Singapore. |
| 36 | The International Conference on Intelligent Technologies, InTech'03. | Masri Ayob and Graham Kendall | Presenter | A Monte Carlo Hyper-Heuristic To Optimise Component Placement Sequencing For Multi Head Placement Machine. | 17-19 Dec 2003 | Chiang Mai, Thailand. |
| 37 | The 1st Multidisciplinary | Masri Ayob and | Presenter | An Investigation of an Adaptive Scheduling | 13-16 Aug | Nottingham, |

PROF. DR. MASRI AYOBEmail: masri@ukm.edu.my
<http://www.ftsm.ukm.my/masri>

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|----|--|---|-----------|---|-------------------|--------------------|
| | International Conference on Scheduling: Theory and Applications, MISTA 2003. | Graham Kendall | | for Multi Headed Placement Machines Using a Greedy Search. | 2003. | UK. |
| 38 | The 2003 IEEE International Symposium on Assembly and Task Planning (ISATP2003). | Masri Ayob and Graham Kendall | Presenter | Real-time Scheduling for Multi Headed Placement Machine. | July 10-11, 2003. | Besançon, France. |
| 39 | The IEEE International Conference on Industrial Technology (ICIT'02). | Masri Ayob and Graham Kendall | Presenter | A new dynamic point specification approach to optimise surface mount placement machine in printed circuit board assembly. | 11-14 Dec. 2002 | Bangkok, Thailand. |
| 40 | The IEEE International Conference on Industrial Technology (ICIT'02). | Masri Ayob, Peter Cowling and Graham Kendall. | Presenter | Optimisation for Surface Mount Placement Machines. | 11-14 Dec. 2002 | Bangkok, Thailand. |
| 41 | The International Symposium on Information System and Engineering (ISE' 2001). | Masri Ayob, Juhana Salim, etc. | Presenter | Automatic Cataloguing and Classification System. | Jun 2001. | Las Vegas, USA. |
| 42 | The International Conference on Artificial Intelligence, IC- | Masri Ayob, Mohd. Faidzul Nasrudin, | Presenter | The Effect of Return Function on Individual Stock Price (KLSE) Prediction Model | Jun, 2001. | Las Vegas, USA. |

PROF. DR. MASRI AYOBEmail: masri@ukm.edu.my
<http://www.ftsm.ukm.my/masri>

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|----|---|--|-----------|---|--------------|-------------------------|
| | AI' 2001 | Khairuddin Omar and Miswan Surip. | | Using Neural Networks | | |
| 43 | The 2 nd International Conference On Advances And Strategic Technologies (ICAST2000). | Masri Ayob, Kalaivani Chelappan, Abdullah Mohd Zin and Rosilah Hassan. | Presenter | Sigma Solution Digital Designer and Simulator | August 2000. | Malaysia. |
| 44 | The International Forum Cum Conference On Information Technology And Communication At The Dawn Of The New Millennium. | Abdullah Mohd Zin , Masri Ayob, Kalaivani Chelappan, Suhaila Zainuddin and Rosilah Hassan. | Presenter | A Computer Aided Learning Software for Digital Logic Design. | August 2000 | Bangkok, Thailand. |
| 45 | Kolokium Kebangsaan Pusat Pengajian Sains Matematik USM. | Yuzita Yaacob, Wan Zulkifli Wan Abdul Rahman and Masri Ayob. | Presenter | Isian Kursus Mantik Berasaskan Web Untuk Mata Pelajaran Matematik 1 (TR1313) di Universiti Kebangsaan Malaysia. | 1999 | Penang, Malaysia. |
| 46 | The Malaysian Science and Technology Congress | Jasmy Yunus and Masri | Presenter | Bahasa Melayu Speech Recognition system Based on N-Tuple | 1994. | Kuala Lumpur, Malaysia. |

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|------|-------|--|-----------|--|--|
| '94. | Ayob. | | Technique | | |
|------|-------|--|-----------|--|--|

ADMINISTRATION WORK

University Level

- Deputy Director (application), Center of Information Technology
Duration : July 1, 2006 - June 30, 2009.

Faculty Level

- Head of FTSM Postgraduate Programme
Duration : June 2011-June 2012

Committee Level

| Committee | Level | Year |
|---|---------------------|-------------|
| RMC Panel (FRGS) for Information and Communication Technology Sector | National | 2014 |
| A Chair of the Viva Committee for Postgraduate Programme | University | 2013 |
| A committee of KPI CAIT | Faculty | 2011 |
| FTSM postgraduate Committee | Faculty | 2011-2012 |
| FTSM Postgraduate Examiner Committee (Technical) | Faculty | 2010-2011 |
| HEJIM-FTSM-FKAB-MTDC Microcontroller School Mentoring Project | University/National | 2010 |
| A Chair of the Software Committee | University | 2007 - 2010 |
| Adviser of the Software Development Team for Sukan badan-badan berkanun | University | 2007-2009 |

| | | |
|---|------------|-------------|
| Technical tender committee. | Faculty | 2007, 2006 |
| A Chair of the Finance tender committee. | University | 2006 - 2009 |
| A committee of Preparing Guidelines for Supervising and Thesis Writing for Postgraduate Students. | University | 2006 - 2006 |
| A committee of main ICT (<i>Majlis Teknologi Maklumat</i>). | University | 2006 - 2009 |
| A committee of Infrastructure and Operational. | University | 2006 - 2009 |
| A committee of ICT Security | University | 2007 -2009 |
| Organising committee member of National Conference in Programming Science (ATUR07) | Faculty | 2007 |
| A Co-chair for the ISO committee | Center | 2007 - 2009 |
| Member of Automated Scheduling, Optimisation and Planning (ASAP) Research Group, University of Nottingham | Center | 2001-2006 |

COMMUNITY SERVICE (2008-2014)

1. Intelligent Systems and Applications Technical Committee: Task Force on Hyper-heuristic, IEEE Computational Intelligence Society, Main Committee.
 2. IPT Evaluation Panel - RMC Panel: Information and Communication Technology (FRGS grants), Ministry Level, (2014).
 3. Committee member for "Domain Pendidikan Liberal UKM: Kekeluargaan, Kesihatan dan Gaya Hidup", UKM level, (May, 2013).
 4. Evaluator for Programming Challenge Competition (24-27 May, 2012), FTSM.
 5. Main Committee Member (Sport Committee) of 'Kelab Kebajikan Kakitangan FTSM' (KIT) (2011-2012)
 6. Sports: UKM athlete (track and fields), tennis, futsal, squash and netball player for Intervarsity Sports (2007-present).
 7. A member of 'Persatuan Kakitangan Universiti Kebangsaan Malaysia (PKAUKM), 2010 -present.
 8. A member of 'Persatuan Alumni Kakitangan Universiti Kebangsaan Malaysia', 2009 - present.
 9. "Jawatankuasa Penasihat Projek Pengurusan Perubahan UKM", 2008-2009.
-

10. A member of 'Kelab Kebajikan Kakitangan FTSM' (KIT), 1997 -present.

EXTERNAL LINK

Conference Chair/Program Committees (17)

(2008-2014)

1. The 2014 IEEE Congress on Evolutionary Computation (CEC 2014), Beijing, China, July 6-11, 2014. <http://www.ieee-wcci2014.org/>
2. The 2013 IEEE Congress on Evolutionary Computation (CEC 2013), Cancun, Mexico, June 20-23, 2013. <http://www.cec2013.org/>
3. MISTA 2013 (Multidisciplinary, International Conference on Scheduling: Theory and Applications) <http://www.schedulingconference.org/>
4. The IEEE Symposium on Computational Intelligence in Scheduling (CI-Sched 2013) http://www.ntu.edu.sg/home/epnsugan/index_files/SSCI2013/
5. The 4th International Conference on Electrical Engineering and Informatics (ICEEI 2013) <http://www.ukm.my/confukm/index.php/ICEEI/ICEE2013>
6. 8th International Conference in Information Processing, Management and Intelligent Information Technology (ICIPT2013)
7. The 2012 IEEE Congress on Evolutionary Computation (CEC 2012), Brisbane, Australia, June 10-15, 2012 <http://www.ieee-wcci2012.org>
3. Finance and Registration Chair: 4th Conference on Data Mining and Optimization 2012, Langkawi (<http://dmo.ukm.my/dmo2012>).
4. Technical Program Committee: 4th Conference on Data Mining and Optimization 2012.
5. Conference Co-Chair: 3rd Conference on Data Mining and Optimization 2011.
6. Technical Program Committee: 3rd Conference on Data Mining and Optimization 2011.
7. IEEE Symposium Series on Computational Intelligence - SSCI 2011, April 11-15, 2011 - Paris, France, <http://www.poleia.lip6.fr/~ssci2011/site/>.
8. The IEEE Symposium on Computational Intelligence in Scheduling (CI-Sched 2011)

<http://www.ieee-ssci.org/2011/cisched-2011>

9. Editorial Board: Information Systems Frontier: Special Issue on Intelligent Systems and Smart Homes, Published by Springer 2007.
10. The IEEE Symposium on Computational Intelligence in Scheduling (CI-Sched 2010)
11. Conference Organizer: 2nd Conference on Data Mining and Optimization 2009.
12. The IEEE Symposium on Computational Intelligence in Scheduling (CI-Sched 2009), in Nashville, TN, USA.

(Before 2008)

13. The Seventh International Conference on Intelligent System Design and Applications (ISDA 2007), Oct. 22-24, 2007, Rio de Janeiro, Brazil. Sponsored by IEEE (<http://www.isda07.eng.uerj.br/>)
14. The International Conference on Artificial Intelligence and Pattern Recognition AIPR 07), 9-12 of July 2007 in Orlando, FL, USA.
<http://www.promoterresearch.org/2007/aipr/committees.html>
15. The 18th IEEE International Conference on Tools with Artificial Intelligence (ICTAI06), Washington, DC, November 13-15, 2006 (<http://www.nvc.cs.vt.edu/ictai06/>)
16. The Sixth International Conference on Intelligent System Design and Applications (ISDA 2006), Oct. 16-18, 2006, Jinan, Shandong, China. Sponsored by IEEE.
17. IEEE Symposium on Computational Intelligence in Scheduling (CISched 2007), Honolulu, Hawaii, USA, April 1-5, 2007 (<http://www.cs.nott.ac.uk/~rxq/cis/CIS2007.htm>).

Journal Reviewer (16) : 2008-2015

1. Journal of Soft Computing
Publisher: Springer
Impact factor : 1.124
2. Applied Mathematics and Computation.
Publisher: Elsevier
Impact factor : 1.454
3. International Journal of Computer Integrated Manufacturing (Q3, ISI journal).

Publisher: Taylor and Francis.

4. **IEEE Transactions on Evolutionary Computation (Q1 ISI journal)**
Impact factor 4.58 (the 1st top journal in Operation Research, Q1).
Publisher: IEEE Computational Intelligence Society
5. **Central European Journal of Operations Research (Q3 ISI journal)**
Publisher: Springer
Impact factor :0.353 (2009)
6. **OR Spectrum(Q1 ISI journal)**
Publisher: Springer
Impact factor : 2.03
7. **Journal of the Operational Research Society (Q2 ISI journal)**
Publisher: Palgrave MacMillan
2010 Impact Factor: 1.102
8. **Journal of Scheduling (Q2, ISI journal)**
Publisher: Springer
Impact factor :1.05 (2008)
9. **Journal of Computers & Industrial Engineering (Q3 ISI journal)**
Publisher: Elsevier
Impact factor : 0.65
10. **Computers & Operations Research (Q2, ISI journal)**
Publisher: Elsevier
Impact factor for 2011: 1.720
11. **International Journal of Intelligent Computing and Cybernetics (Q3 ISI journal)**
Publisher: Emerald
12. **Annals of Operations Research (Q3 ISI journal)**
Publisher: Springer Netherlands
Impact factor: 0.589
13. **Journal of Heuristics (Q3 ISI journal)**
Publisher: Springer
Impact factor: 0.74
14. **European Journal of Operational Research (Q1 ISI journal)**
Publisher: Elsevier
Impact factor: 2.5
15. **IEEE Transactions on Components and Packaging Technologies (Q2 ISI journal)**

Publisher: IEEE Publishers.
Impact factor: 1.028

16. International Journal of Knowledge-Based and Intelligent Engineering Systems.

Publisher: IOS Press, Netherlands.

17. Journal of Information Technology and Multimedia.

Publisher: Fakulti Teknologi dan Sains Maklumat, UKM

18. Malaysian Journal of Science

Publisher: Universiti Malaya

Book Reviewer (2008-2014)

1. Title: Pengenalan Kepada 18014649 (Step-NC)

Publisher: Universiti Tun Hussein Onn Malaysia.

Postgraduate Evaluator (2008-2014)

1. Soft Computing Seminar (SoCoS 2013) in conjunction with Postgraduate Annual Research Seminar (PARS 2013) 8-30th May 2013, Glory Beach Resort, Port Dickson.

2. Evaluator Panel for Postgraduate Seminar, Fakulti Teknologi Maklumat dan Komunikasi, Universiti Teknikal Malaysia, Melaka (3 May, 2011)

REFEREE

1. Name : Professor Graham Kendall (Dunford Professor of Computer Science)
Position : Vice-Provost (Research and Knowledge Transfer)
e-mail : graham.kendall@nottingham.edu.my
Address : The University of Nottingham Malaysia Campus
Jalan Broga, 43500 Semenyih
Selangor Darul Ehsan
Malaysia

Telephone : +6(03) 8924 8306
Fax : +6(03) 8924 8299

PROF. DR. MASRI AYOB

Email: masri@ukm.edu.my
<http://www.ftsm.ukm.my/masri>

2. Name : Prof. Dr. Siti Mariam Hj Shamsuddin
Position : Professor
e-mail : mariam@utm.my / sitimariams@gmail.com
Address : Department of Computer Graphics & Multimedia,
Faculty of Computer Science & Information Systems,
Universiti Teknologi Malaysia,
81310 Skudai, Johor, Malaysia
Telephone : +607-553 1993/37842
Fax : +607-553 2211 / +607-553 2212
3. Name : Prof. Dr. Safaai Deris
Position : Professor
e-mail : safaai@utm.my
Address : Department of Software Engineering,
Faculty of Computer Science & Information Systems,
Universiti Teknologi Malaysia,
81310 Skudai, Johor, Malaysia
Telephone : +607-553 2343
Fax : +607-553 2211