

## Curriculum Vitae

### Personal Particulars

**Name:** NASTAEIN BT QAMARUZ ZAMAN

**Current position:** LECTURER

**Expertise:** Solid waste management, anaerobic digestion and odour pollution



### Academic and Professional Qualifications

Year	Degree	Discipline	University
2010	PHD Civil Engineering	Environmental Engineering	University of Canterbury, New Zealand
2005	ME Civil (With Distinction)	Environmental Engineering	University of Canterbury, New Zealand
2002	Bachelor of Engineering (Honours)	Civil Engineering	Universiti Teknologi Malaysia
1999	Diploma	Civil Engineering	Universiti Teknologi Malaysia

### Titles of postgraduate theses

Phd: The applicability of batch tests to assess bimethanation potential of organic waste and assess scale up to continuous reactor systems

Masters: Odour potential from kerbside collected residential food waste

### Work Experience

Year	Position	Field of Work	Place of Work
2010 – Present	Lecturer	Research and teaching in Environmental Engineering	USM

2005 - 2009	Teaching assistant	Tutoring, lab demonstration, marking	University of Canterbury, New Zealand
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## RESEARCH AND PUBLICATION

### Research Publications

#### Journal

- 1 **Qamaruz-Zaman, N** and Yan Kun (2015), Preliminary observation on the effect of baking soda volume on controlling odour from discarded organic waste. *Waste Management*, 35(2015), 187-190
- 2 Amin Mojiri, Hamidi Abdul Aziz, **Nastaein Q. Zaman**, Shuokr Qarani Aziz and Mohammad Ali Zahed (2014). Metals removal from municipal landfill leachate and wastewater using adsorbents combined with biological method. *Desalination and Water Treatment*, DOI: 10.1080/19443994.2014.983180
- 3 Haider M. Zwain, **Nastaein Qamaruz Zaman**, Hamidi Abdul Aziz and Irvan Dahlan (2014). Evaluation of lignin removal from Recycled Paper Mill Effluent (RPME) under different start-up's steady state conditions of Modified Anaerobic Inclining-Baffled Reactor (MAI-BR). *Current Environmental Engineering*, (1)2014, 60-63
- 4 Siti Nor Farhana Zakaria, Syafalni S., and **Nastaein Qamaruz Zaman** (2014). Comparison between coagulants surfactant modified bentonite, combination chitosan-natural bentonite and combination chitosan-modified bentonite for peat water treatment. *Journal of Water Reuse and Desalination*, 4(3), 194–208
- 5 **Nastaein Qamaruz Zaman** and Zuriana Mat Jam (2014). Odor nuisance and the need for effective complaint measures in Malaysia: A case study of a public institution in Penang. *Chemical Engineering Transactions*, 40, 97-102.
- 6 Amin Mojiri, Hamidi Abdul Aziz, **Nastaein Q. Zaman**, Shuokr Qarani Aziz and Mohammad Ali Zahed (2014). Powdered ZELIAC augmented sequencing batch reactors (SBR) process for co-treatment of landfill leachate and domestic wastewater. *Journal of Environmental Management*, 139(2014), 1-14
- 7 Haider M. Zwain, **Nastaein Qamaruz Zaman**, Hamidi Abdul Aziz, Irvan Dahlan (2014). A novel design concept of modified anaerobic inclining-baffled (MAI-BR) for wastewater treatment application. *Journal of the Institute of Industrial Application Engineers*, 2(3)
- 8 **Qamaruz Zaman, N** (2013). Baking soda for domestic kitchen wastes. *Advanced Research Initiatives*, 5, 20.
- 9 Siti Roshayu Hassan, Haider M. Zwain, **Nastaein Qamaruz Zaman** and Irvan Dahlan (2013). Recycled paper mill effluent treatment in a modified anaerobic baffled reactor: start-up and steady-state performance. *Environmental Technology*, DOI: 10.1080/09593330.20

- 10 Haider M. Zwain, **Nastaein Qamaruz Zaman**, Hamidi Abdul Aziz, Irvan Dahlan (2013). The start-up performance of modified anaerobic baffled reactor (MABR) for the treatment of recycled paper mill wastewater. *Journal of Environmental Chemical Engineering*, 1(12), 61-64
- 11 **Qamaruz-Zaman, N.** and Milke, M. W. (2012). VFA and ammonia from residential food waste as indicators of odor potential. *Waste Management*, 32 (12), 2426-2430
- 12 Amin Mojiri, Hamidi Abdul Aziz, Shuokr Qarani Aziz and **Nastaein Qamaruz Zaman** (2012). Review on Municipal Landfill Leachate and Sequencing Batch Reactor (SBR) Technique. *Archives Des Sciences*, 65(7), 22-31
- 13 Amin Mojiri, Hamidi Abdul Aziz, **Nastaein Qamaruz Zaman** and Shuokr Qarani Aziz (2012). A Review on Anaerobic Digestion, Bio-reactor and Nitrogen Removal from Wastewater and Landfill Leachate by Bio-reactor. *Advances in Environmental Biology*, 6(7), 2143-215

#### Proceeding

- 1 **Nastaein Qamaruz Zaman**, Ros Nadiah Rosli and Ahmad Shukri Yahya (2014). Development of odor wheel as primary assesment tool for odor. *Proceedings iNESCO 18-20 April, 2014, USM Engineering Campus, Penang*
- 2 **Nastaein Qamaruz Zaman**, Norashikin Yaacof and Yusri Yusop (2014), Odor impact assesment at palm oil mill site, Malaysia - A questionnaire pilot study. *Proceedings iNESCO 18-20 April, 2014, USM Engineering Campus, Penang*
- 3 **Qamaruz-Zaman, N** and Yan Kun (2014). Odor from food waste and its treatment technique. *Conference Proceedings of the Eurasia 2014 Waste Management Symposium, 28-30 April 2014, Istanbul, Turkey*
- 4 **Nastaein Qamaruz Zaman** and Zuriana Mat Jam (2014). Odor nuisance and the need for effective complaint measures in Malaysia: A case study of a public institution in Penang. *Chemical Engineering Transactions*, 40, 97-102. NOSE2014 4th International Conference on Environmental Odour Monitoring & Control 14-17 September 2014, Venice Italy
- 5 **Nastaein Qamaruz Zaman**, Ros Nadiah Rosli and Nurashikin Yaacof (2013). The odour threshold test, a tool for odour assesment: preliminary observations. *Conference Proceedings Seminar Hasil Penyelidikan Sektor Pengajian Tinggi Kementerian Pendidikan 2013 (SHP-KPT2013), UUM Sintok, 2-3 July, 2013*
- 6 **Qamaruz-Zaman, N.** and Abu-Hassan, N. (2013). The management of malodour form decomposing domestic kitchen wastes stored at the cubside. *Conference Proceedings of the 5th IWA Odours and Air Emissions Conference, San Francisco, 4-7 March, 2013*
- 7 **Qamaruz-Zaman, N** And Milke, M. (2011). Kerbside Collection Of Residential Food Waste – Managing Odour Problem. *Proceedings The 3rd AUN/SEED-Net Regional Conference On Global Environment, Kuala Lumpur, Malaysia. 21-22 February, 2011*
- 8 **Qamaruz-Zaman, N** and Milke, M. W. (2011). VFA and ammonia emission during separate collection of residential waste as a measure of odour potential. *Conference Proceedings of the Thirteenth International Waste Management and Landfill Symposium, Sardinia, 3-7 October, 2011*

- 9 **Qamaruz-Zaman, N.** and Milke, M.W. (2010). Predicting the performance of a full-scale anaerobic digester from batch-scale laboratory studies. Water New Zealand's Conference and Expo, Christchurch, New
- 10 M. Milke and **Qamaruz-Zaman, N.** (2010). Similarity of first-order rate constants for methane from food waste batch and continuous feed systems. Third International Symposium on Energy from Biomass and Waste, Venice, Italy, 8-11 November 2010
- 11 **Qamaruz-Zaman, N.** and Milke, M.W. (2008). Digested sewage sludge as seed for batch test of anaerobic biodegradability. Global Waste Management Symposium, Copper Mountain, CO, USA, 7-10 September 2008.
- 12 **Qamaruz-Zaman, N.** and Milke, M.W. (2008). Laboratory comparison of odour control techniques for separated residential food waste. Communications in Waste and Resource Management, v 9, pp 18-24.
- 13 **Qamaruz-Zaman, N.** and Milke, M.W. (2008). Predicting solid waste degradation rates in landfills using an improved anaerobic assessment tool. The 5th Intercontinental Landfill Research Symposium, Copper Mountain, CO, USA, 10-12 September 2008.
- 14 **Qamaruz-Zaman, N.** and Milke, M.W. (2007). Improving the anaerobic analysis of solid sample decomposition: preliminary observations. 11th IWA World Congress on Anaerobic Digestion, Brisbane, Australia, 23-27 September 2007
- 15 **Qamaruz-Zaman, N.** and Milke, M. W. (2007). Leachate extraction for food waste odour indicators. Eleventh International Waste Management and Landfill Symposium, Sardinia, October 2007. Published as CD, 10 p. Abstract on p. 559-560 of proceedings (ISBN 978-88-6265-003-8).

#### Conference Presentation

- 1 **Nastaein Qamaruz Zaman**, Ros Nadiah Rosli and Ahmad Shukri Yahya (2014). Development of odor wheel as primary assesment tool for odor. iNESCO 18-20 April, 2014, USM Engineering Campus, Penang
- 2 **Nastaein Qamaruz Zaman**, Norashikin Yaacof and Yusri Yusop (2014), Odor impact assesment at palm oil mill site, Malaysia - A questionnaire pilot study. iNESCO 18-20 April, 2014, USM Engineering Campus, Penang
- 3 **Qamaruz-Zaman, N** and Yan Kun (2014). Odor from food waste and its treatment technique. Eurasia 2014 Waste Management Symposium, 28-30 April 2014, Istanbul, Turkey
- 4 **Nastaein Qamaruz Zaman** and Zuriana Mat Jam (2014). Odor nuisance and the need for effective complaint measures in Malaysia: A case study of a public institution in Penang. NOSE2014 4th International Conference on Environmental Odour Monitoring & Control 14-17 September 2014, Venice Italy
- 5 **Nastaein Qamaruz Zaman** (2014). The Need for Odour Management in Developing Countries. ICEMTE 2014 : International Conference on Environmental Management, Technology and Engineering - Singapore, March 30 - 31, 2014

- 6 **Nastaein Qamaruz Zaman**, Ros Nadiah Rosli and Nurashikin Yaacof (2013). The odour threshold test, a tool for odour assesment: preliminary observations. Conference Proceedings Seminar Hasil Penyelidikan Sektor Pengajian Tinggi Kementerian Pendidikan 2013 (SHP-KPT2013), UUM Sintok, 2-3 July, 2013
- 7 **Qamaruz-Zaman, N.** and Abu-Hassan, N. (2013). The management of malodour form decomposing domestic kitchen wastes stored at the cubside. Conference Proceedings of the 5th IWA Odours and Air Emissions Conference, San Francisco, 4-7 March, 2013
- 8 **Qamaruz-Zaman, N** And Milke, M. (2011). Kerbside Collection Of Residential Food Waste – Managing Odour Problem. Proceedings The 3rd AUN/SEED-Net Regional Conference On Global Environment, Kuala Lumpur, Malaysia. 21-22 February, 2011
- 9 **Qamaruz-Zaman, N** and Milke, M. W. (2011). VFA and ammonia emission during separate collection of residential waste as a measure of odour potential. Conference Proceedings of the Thirteenth International Waste Management and Landfill Symposium, Sardinia, 3-7 October, 2011
- 10 **Qamaruz-Zaman, N.** and Milke, M.W. (2010). Predicting the performance of a full-scale anaerobic digester from batch-scale laboratory studies. Water New Zealand’s Conference and Expo, Christchurch, New Zealand’s Conference and Expo, Christchurch, New Zealand
- 11 M. Milke and **Qamaruz-Zaman, N.** (2010). Similarity of first-order rate constants for methane from food waste batch and continuous feed systems. Third International Symposium on Energy from Biomass and Waste, Venice, Italy, 8-11 November 2010
- 12 **Qamaruz-Zaman, N.** and Milke, M.W. (2008). Digested sewage sludge as seed for batch test of anaerobic biodegradability. Global Waste Management Symposium, Copper Mountain, CO, USA, 7-10 September 2008.
- 13 **Qamaruz-Zaman, N.** and Milke, M.W. (2008). Predicting solid waste degradation rates in landfills using an improved anaerobic assessment tool. The 5th Intercontinental Landfill Research Symposium, Copper Mountain, CO, USA, 10-12 September 2008.
- 14 **Qamaruz-Zaman, N.** and Milke, M.W. (2007). Improving the anaerobic analysis of solid sample decomposition: preliminary observations. 11th IWA World Congress on Anaerobic Digestion, Brisbane, Australia, 23-27 September 2007
- 15 **Qamaruz-Zaman, N.** and Milke, M. W. (2007). Leachate extraction for food waste odour indicators. Eleventh International Waste Management and Landfill Symposium, Sardinia, October 2007.

**Research Grant**

**National**

- 1 Towards Odour Pollution Regulation for Malaysia: A Comparative Study Between Olfactometry, the Accepted Method of Odour Measurement in Malaysia with Other Proven Techniques Regulated in Japan, Europe and New Zealand. Source: MOHE (ERGS). Value: RM100,000. Duration: 1/8/2012-31/7/2014
- 2 The effect of moisture content as the causal mechanism of odor concentration, Source: MOHE (FRGS). Value: RM 70,000. Duration: 1/5/2013 - 30/4/2015

#### University

##### Project manager

- 1 The establishment of setback distance model for odor from palm oil mills. Source: USM (RUI). Value RM 172,800. Duration: 31/12/2014 – 31/12/2016
- 2 The development of an anerobic assessment tool to measure methane potential from organic wastes. Source: USM (INSENTIF). Value: RM5,000. Duration: 7/3/2011-6/3/2012.
- 3 Studies of Odour Emission from Kerbside Collection of Residential Food Wastes and Control Techniques. Source: USM (Short Term). Value: RM40,000. Duration: 15/8/2011-14/8/2013

##### Co-researcher

- 1 Reducing Individual carbon footprint using travel behaviour modification technique towards sustainable transportation in Penang. Source: Delivering Excellence Grant (APEX). Value: RM 87000. Duration: 1/11/2012-31/10/2014
- 2 Low cost alternative of PM10 monitoring using a non Federal Equivalent Method (FEM) instrument. Source: USM (Short Term). Value: RM39,955.20. Duration: 20/5/2011-19/5/2013

## TEACHING AND SUPERVISION

### Undergraduate Teaching/Post-Graduate Teaching

Academic Session	Course	No. Students
2010/2011 SEM 1	1. EUP 222 ENGINEERS IN SOCIETY	
2010/2011 SEM 2	2. EUP 222 ENGINEERS IN SOCIETY	312
	3. EAA393 COMPUTATION AND PROBLEM SOLVING	34
	5. EAA110 CIVIL ENGINEERING DRAWING	
2011/2012 SEM 1	1. EUP 222 ENGINEERS IN SOCIETY	202
	2. EAP313 WASTEWATER ENGINEERING	117
	3. EAA 305/2 HYDRAULICS, ENVIRONMENT AND GEOTECHNIC LABORATORY	76

	4. EAP 411 EIA AND SOLID WASTE MANAGEMENT	80
	5. EAP 582 WASTEWATER ENGINEERING	16
	6. EAP 585 SOLID AND HAZARDOUS WASTE MANAGEMENT	16
2011/2012 SEM 2	4. EAP 412 ENVIRONMENTAL STUDIES	24
	7. EAA 110 CIVIL ENGINEERING DRAWING	
	8. EUP 222 ENGINEERS IN SOCIETY	205
2012/2013 SEM 1	1. EAP313 WASTEWATER ENGINEERING	120
	2. EUP 222 ENGINEERS IN SOCIETY	275
	3. EAP 411 EIA AND SOLID WASTE MANAGEMENT	74
	4. EAA 305/2 HYDRAULICS, ENVIRONMENT AND GEOTECHNIC LABORATORY	80
	5. EAP 582 WASTEWATER ENGINEERING	21
	6. EAP 585 SOLID AND HAZARDOUS WASTE MANAGEMENT	16
2012/2013 SEM 2	1. EUP 222 ENGINEERS IN SOCIETY	224
	2. EAP 412/4 ENVIRONMENTAL STUDIES	12
2013/2014 SEM 1	1. EAP313 WASTEWATER ENGINEERING	70
	2. EAP 585 SOLID AND HAZARDOUS WASTE MANAGEMENT	14
	3. EAP 582 WASTEWATER ENGINEERING	15
	4. EAP 411 EIA AND SOLID WASTE MANAGEMENT	84

### Graduate Supervision

#### (i) Ph.D

1	AMIN MOJIRI	On-going	Nitrogen Removal From Municipal Landfill Leachate By Bio-Reactor And Ion Exchanges Methods (co-supervisor)
2	FARAJI HOSSEIN	On-going	Studying on municipal solid waste compost quality controlling by means of odor producing proces, for use in urban landscape (main-supervisor)
3	HAIDER MOHAMMED NAIMA ZWAIN	On-going	Removal of COD, Turbidity And Ammonia From Pulp And Paper Mill Effluent Using A Modified Hybridized Anaerobic Inclining-Baffled(MHAI-B) Bioreactor (co-supervisor)
4	NURASHIKIN BINTI YAACOF	On-going	Towards odour pollution regulation for Malaysia: a comparative study between olfactometry, the accepted method of odour measurement in Malaysia with other proven techniques regulated in Japan, Europe and New Zealand (Main supervisor)
5	SARIYAH BINTI MAHDZIR	On-going	Study Of RHA/PFA/CFA Adsorbent For Removal Of Dye Containing Wastewater (co-supervisor)

6	SITI ROSHAYU BINTI HASSAN	On-going	Anaerobic Digestion of Pulp and Paper Mill Effluent (PUPME) Using Modified Anaerobic-Baffled (MHA-B) Bioreactor: Mechanism, Kinetic and Hydrodynamic Studies (co-supervisor)
<b>(ii) Master Degree (Research)</b>			
1	ROHANA BINTI ABDULLAH	Completed	Landfill Leachate Treatment Potential Studies Using Activated Carbon and Anionic-Cationic Surfactant-Modified Zeolite (ACSMZ) (co-supervisor)
2	ROS NADIAH BINTI ROSLI	Submitted	A STUDY ON ADOUR ASSESSMENT AND CONTROL FROM A PALM FACTORY (Main supervisor)
3	SITI NOR FARHANA BT ZAKARIA	Completed	Peat Water Treatment Using Chitosan-Bentonite, Surfactant Modified Bentonite, Limestone and Natural Zeolite (co-supervisor)
<b>(iv) Master's Dissertation (Mixed Mode)</b>			
1	Yan Kun	2013	The control of food waste odor using baking soda
2	Nor Atiqah bt Azmi	2015	Sequencing Batch Reactor Treated Palm Oil Mill Effluent by Constructed Wetland Planted with Cyperus Alternifolius Species and Palm Oil Fuel Ash
3	Syafinah bt Yusoff	2015	Validation of simulated Odour Dispersion with in-field Odour Assessment
4	Siti Aisyah bt Ab Rahman	2015	The Effect of Moisture Content as the Causal Mechanism of Odor Concentration (OUM-3)



**(v) Final Year Undergraduate Supervision**

1	Norliyana bt Abu Hassan	2012	A study on food waste odor potential and the suitable odor control additives
2	Muhamad Taufik b. Ibrahim	2013	The development of panel screening method for the Odor Threshold Test (OTT)
3	Nur Atiqah bt. Sham	2013	Identification of odor sources around engineering campus of Universiti Sains Malaysia
4	Zuriana bt Mat Jam	2014	Odor impact study in Universiti Sains Malaysia
5	Bibi Hasbi bt Ab Aziz	2014	Feasibility of anaerobic digestion treatment for Parit Buntar Wet Market waste
6	Muhammad 'Afif b. Mohd Zulkifli	2014	Organic waste generation from Parit Buntar Wet Market
7	Norhafizah bt Bazal Ahmad	2014	Feasibility of composting for Parit Buntar Wet Market waste
8	Amalina Nabilah bt Rahmat	2015	The Effectiveness of a Real- time Odour Complaint System In Enhancing Odour Management System in Malaysia
9	Chiew Shing Mei	2015	Comparism of Sustainable Construction Waste Management Efforts at Private and Public Construction Project
10	Nik Rosdaine bt Nik Hussin	2015	Odor emission from open pond palm oil mill effluent system: case study of UOP

**ACADEMIC RECOGNITION AND LEADERSHIP****Assessor / Examiner****(i) Internal Examiner for Thesis:**

Doctor of Philosophy

1	Seyed Mohammad Hosseini	Chemical and biological integrated thermophilic process for rapid biodegradation and maturation of rice straw residual	2013
2	Salem S. S. Abuamro	Optimization of stablised landfill leachate treatment using ozone, ozone/fenton and ozone/persulfate	2013

Masters (Research)

1	Maryam Mashhoor Roodi	Amendment and elimination in heavy metal enriched soil assistance of phytoremediation	2014
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		by aromatic species	
2	Nurazim bt Ibrahim	Treatment of food waste by using mechanical heat process	2012
Masters (Mixed mode)			
1	Benedeth Flarine Francis Samsar	Concentration From Batik Outlets And The Difference Of Hcoh Levels Between Adult And Children	2014
2	Nur Najehah Mohd Basri,	Monitoring Of Formaldehyde In Batik Manufacturing Processes	2014
3	Mohammad Taghi Vakili	Potentiality of palm oil biowaste with cow dung and poultry litter for compost production	2011
4	Shajaratuldur bt Ismail	Characterization of prepared and spent CFA/POFA/RHA adsorbents on removing heavy metals and dyes	2011
5	Sariyah bt Mahdzir	Study of adsorbent prepared from combination of RHA/CFA and CFA by reflux method for removal of brilliant green dye	2011
6	Ushaa Nair A/P Pannir Selvam	Heavy metal (chromium, ferum, copper and nickel) removal efficiency using surfactant modified zeolite for tin mining wastewater	2011
<b>(i) Reviewing Articles in Academic Journals</b>			
1	Ammonia reducing using zeolite followed by a sequencing batch reactor to treat plant effluents	Frontiers in Environmental Science, 2014	
2	Computer simulation of a submerged membrane bioreactor treating high COD industrial wastewater	Frontiers in Environmental Science, 2014	
3	On-farm applications of cattle manure fibers hydrolysis biotechnologies: a review	IJEWM, 2014	
4	Thermochemical characterization of cattle manure relevant to the potential for solid biofuel and its environmental implication	IJEWM, 2014	
5	The co-composting of sewage sludge and grass clippings using the method respirometric	IJEWM, 2014	
6	Energy recovery through biohydrogen production for sustainable anaerobic waste treatment: an overview	IJEWM, 2014	
7	Commercial solid waste characteristics and management in Jamalkhan Ward, Chittagong,	IJEWM, 2013	

Bangladesh		
8	Determination of biogas generation potential as a renewable energy source from supermarket wastes	Waste Management, 2013
9	NH <sub>3</sub> /H <sub>2</sub> S generation processes and their contribution for odor emission from bio-wastes landfilling	Chemosphere, 2013
10	Process parameters analysis for the vermicomposting of shredded paper using Pheretimidoid Spp.	International Journal of Environment and Waste Management, 2013
11	Aromatic crops as alternative for other edible crops on heavy metal polluted soils	International Journal of Scientific Research in Environmental Sciences, 2013
12	Bioremediation of synthetic wastewater by adsorption of lead and zinc onto <i>Alpinia galanga</i> Wild	Songklanakarin Journal of Science and Technology, 2012
13	Impact of nitrogen loading rates on nitrogen transformation for anaerobic effluent from latex processing industry	International Journal of Environmental Engineering, 2011
<b>(ii) Assessor for Grant Application</b>		
1	High Impact Research Grant Universiti Malaya, Dr Muhammad Aqeel Ashraf, Environmental fate, transport and transformation of engineered nanomaterials in aquatic ecosystem and possible ways of remediation, 2013	High Impact Research Grant Universiti Malaya, 2013
<b>Editorial Board</b>		
1	Managing Editor, International Journal of Scientific Research in Environmental Sciences	2013 - to date
2	Editorial Board Member, International Journal of Waste Management and Technology	2013 - to date
3	Editorial Board Member, Open Research Journal of Environment and Energy	2013 - to date
4	Editorial Board Member, Frontiers in Wastewater Management	2013 - to date
<b>Invited Speaker</b>		

1	Invited speaker for Bengkel Pengukuran Bau dan Cara Mengatasi at Dewan Lestari, Tingkat M, Wisma UOA Pantai, 59200, Kuala Lumpur on 26 - 27 November, 2014 Title: (i) Introduction to Odor Regulation and Assessment, (ii) Odor Assessment in the Laboratory, (iii) Odor Analysis using Field Olfactometry, and (iv) Practical odor assessment at Taman Beringin, Selangor	PPSPPA, 2014
2	Invited speaker for Odour Policy, Assessment and Control Workshop at the Department of Environmental Regulations Western Australia on 7 - 13 December 2014 Title: (i) Odor nuisance and complaints: problems and issues, and (ii) OdourMap hands on training	DERWA, 2014
3	ICEMTE 2014 : International Conference on Environmental Management, Technology and Engineering - Singapore, March 30 - 31, 2014 Title: The Need for Odour Management in Developing Countries	ICEMTE, 2014
4	Invited speaker for Kursus Asas Teknikal Pengurusan Sisa Pepejal dan Pembersihan Awam. Ibu Pejabat PPSPPA, Wisma UOA, Kuala Lumpur on 18 July, 2012.	PPSPPA, 2012
5	Invited speaker for Seminar Penyelidikan Pengurusan Sisa Pepejal. Ibu Pejabat PPSPPA, Wisma UOA, Kuala Lumpur on 27 November, 2012	PPSPPA, 2012
<b>Member in Professional / Academic Associations</b>		
<b>(i) Member (per society)</b>		
1	Member Institute of Engineers Malaysia	2012 - to date
2	Member of International Waste Working Group	07/08/2013 - 07/08/2014
3	Member of International Water Association (#01054257)	Sep 2013 - Dec 2015
<b>(ii) Committee Member (Conference / Seminar /Workshop)</b>		
1	International Committee Member. International Research Conference on Engineering and Technology, Singapore, 14-16 September, 2013	2013
2	Chairperson of Calpuff Training from 9-11 October 2013, School of Civil Engineering, Engineering Campus USM	2013

## CONSULTANCY

**Consultancy with monetary reward****(i) Principal consultant**

- |   |  |   |                                     |
|---|--|---|-------------------------------------|
| 1 | Investigation of odor policy in Australia and its potential adaptation to Malaysia | Air Environment Consulting (AEC), Australia Pty Ltd | 1/12/2014-31/7/2015<br>RM 30,058.00 |
|---|--|---|-------------------------------------|

**Consultancy without monetary reward****(i) Principal consultant**

- |   |  |                        |                     |
|---|--|------------------------|---------------------|
| 1 | Pengukuran bau menggunakan kaedah olfaktometer | Malaysian Rubber Board | 19/2/2014-24/2/2014 |
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**SERVICE TO THE UNIVERSITY****School Committee**

- |   |   |                            |
|---|---|----------------------------|
| 1 | Jawatankuasa Keselamatan, Kesihatan dan Kesejahteraan PPKA (Board Member Safety, Health and Prosperity School of Civil Engineering) | 1 JULAI 2013 - 31 DIS 2015 |
| 2 | Jawatankuasa Pengajian Siswazah dan Penyelidikan PPKA (Board Member Graduate Studies and Research School of Civil Engineering)      | 2 JAN 2013 - 31 DIS 2015   |