

CANDIDATES APPROVED TO SIT PROFESSIONAL INTERVIEW FOR YEAR 2009

In accordance with Bylaws 3.7, the undermentioned names are published as having applied for membership of the Institution, subject to passing the year 2009 Professional Interview.

If any Corporate Member of the Institution has any reason as to why any of the candidates is not a fit and proper person for election, he should communicate in writing to the Honorary Secretary. Such communication should be lodged a month from the date of publication.

Thank you.

Engr. Assoc. Prof. Dr Jeffrey Chiang Choong Luin, MIEEM, P.Eng.

Honorary Secretary,

The Institution of Engineers, Malaysia

NEW APPLICANTS		
Name	Qualifications	
CIVIL ENGINEERING		
CHOONG YUEH TONG	BE (HONS) (UPM) (CIVIL, 02)	
HASHIM BIN SAID	BE (HONS) (UTM) (CIVIL, 95)	
LAM KOK WAI	BE (HONS) (UTM) (CIVIL, 01)	
LIEW SET KIONG, ALFRED	BSc (SOUTHERN CALIFORNIA) (CIVIL, 81)	
MOHD ZAHARI BIN MD ISA	BSc (HONS) (KINGSTON POLYTECHNIC, UK) (CIVIL, 82)	
SHAIFUL AZMAN BIN TAHA	BE (HONS) (UITM) (CIVIL, 02)	
SIM SHAN CHANG, DANIEL TIMOTHY	BE (HONS) (WARWICK, UK) (CIVIL, 99)	
TANG SONG TEIK	BE (HONS) (UTM) (CIVIL, 00)	
ZULFAIRUL BIN ZAKARIAH	BE (HONS) (UKM) (CIVIL, 99)	
ZULKIFLI BIN M TOP	BE (HONS) (UTM) (CIVIL, 02)	
VINOD A/L DAMODARAN	BE (HONS) (MALAYA) (CIVIL, 99)	
ELECTRICAL ENGINEERING		
ANUAR BIN HANAFIAH	BE (THE UNI OF WESTERN AUSTRALIA) (ELECT, 87)	
MOHD JUNAIZEE BIN MOHD NOOR	BSc (UNI OF MISSOURI) (ELECT, 91)	
ZAINAL ABIDIN BIN BORHAN	BE (LAKEHEAD UNI, THUNDER BAY, ONTARIO) (ELECT, 85)	
ELECTRONIC ENGINEERING		
MOHD SABRI BIN MOHAMAD ZIN	BE (HONS) (USM) (ELECT & ETRONIC, 98)	

TRANSFER APPLICANTS		
M'ship No	Name	Qualifications
CIVIL ENGINEERING		
16198	AHMAD BADRI BIN ABDUL MAJID	BSc (MARQUETTE UNI, USA) (CIVIL, 89)
25596	AMIRUDDIN BIN MISHAD	BE (HONS) (UITM) (CIVIL, 06)
22387	CHONG YEW KHEE	BE (HONS) (USM) (CIVIL, 00)
27596	FARHAN NASRI BIN ABDUL RAHMAN	BE (HONS) (UKM) (CIVIL, 02)
19131	FU YEE WOEI	BE (HONS) (UTM) (CIVIL, 00)
28961	JAIDI BIN WATISIN	BE (HONS) (UTM) (CIVIL, 03)
25638	KHO KAI TZE	BE (HONS) (NEWCASTLE UPON TYNE, UK) (CIVIL, 00)
22950	KONG SEH YOW	BSc (OKLAHOMA STATE) (CIVIL, 00)
17460	LEE KENG PENG	BE (HONS) (UTM) (CIVIL, 98)
24465	LIEW YIT VOON	BE (HONS) (UTM) (CIVIL, 99)
21685	LIM ENG TUI	BE (HONS) (UTM) (CIVIL, 03)
25444	LOO TZE VOON	BSc (PURDUE) (CIVIL, 04)
9052	MOHAMAD JAMIL BIN SULAIMAN, DR	BSc (HONS) (STRATHCLYDE, UK) (CIVIL, 85)
25258	MOHD FAIZAL BIN SANI	BE (HONS) (UTM) (CIVIL, 01)
13581	MOHD NASIR BIN HUSSIN	BE (HONS) (UITM) (CIVIL, 84)
27620	MUHAMMAD KHAIRIL BIN IBRAHIM	BE (HONS) (UTM) (CIVIL, 05)
21146	NGAN KAI HUI	BE (HONS) (HERTFORDSHIRE, UK) (CIVIL, 00)
14377	NOOR ADNAN BIN ABDUL AZIZ	BSc (NORTH CAROLINA) (CIVIL, 87)
26380	RAJA FAUZI RIZAL BIN RAJA SABARADIN	BE (HONS) (UITM) (CIVIL, 03)
25474	SIVASANKAR S/O GANAPATHY	BE (HONS) (MALAYA) (CIVIL, 98)
17544	SULAIMAN BIN HASIM	ADV DIP (UITM) (CIVIL, 95)
22956	WONG SEH LENG	BE (HONS) (SWINBURNE UNI OF TECH) (CIVIL, 99)
29199	YEO LUNG LUNG, ALVIN	BE (HONS) (UTM) (CIVIL, 02)

NEW APPLICANTS		
Name	Qualifications	
THEVARAJAN A/L G SHANMUGAM	BE (UNI OF PORTSMOUTH) (ELECT & ETRONIC, 96)	
YA'AKUB BIN ARSAD	BE (HONS) (UPM) (E'TRONIC & COMPUTER, 93)	
MECHANICAL ENGINEERING		
ABDUL RAHMAN BIN YAT	BE (HONS) (UTM) (MECH, 97)	
AZMAN BIN ILYAS	BE (HONS) (UTM) (MECH, 86)	
AZMI BIN AHMAD	BE (HONS) (UITM) (MECH, 96)	
CHIA SWEE PENG	BE (HONS) (MALAYA) (MECH, 97)	
CHUA YONG LING	BA Sc (UNI OF TORONTO) (MECH, 84)	
LEE SEE KENN	ME (HONS) (IMPERIAL COLLEGE, UNI OF LONDON) (MECH, 97)	
MOHAMAD JOHARI BIN RAMLY	BSc (HONS) (BRIDGEPORT, USA) (MECH, 85)	
MOHD NAZRI BIN MOHAMAD	BE (HONS) (UITM) (MECH, 99)	
RAFIDAH BINTI AHMAD	BE (HONS) (UTM) (MECH, 93)	
UNAZIE ISKANDAR BIN ABD RAZAK	BE (HONS) (UNITEN) (MECH, 03)	
YIP HENG CHEONG	BE (HONS) (GLAMORGAN, UK) (MECH, 93)	
TELECOMMUNICATION ENGINEERING		
TAN KIM GEOK	BE (HONS) (UTM) (ELECT, 95)	

TRANSFER APPLICANTS		
M'ship No	Name	Qualifications
36926	YONG SOON KHIONG	BE (HONS) (UMS) (CIVIL, 01)
24432	ZAINAZAH AHMAD BANJAR	BE (NEW SOUTH WALES) (CIVIL, 97)
ELECTRICAL ENGINEERING		
13032	AHMAD REZAHAN BIN MOHAMMAD	BE (HONS) (UTM) (ELECT, 92)
33778	CHUA KOK LIANG @ HENRY CHUA	BE (HONS) (UMS) (ELECT & ETRONIC, 02)
18185	GOH SHENG PUN	BSc (OKLAHOMA STATE) (ELECT, 96)
29628	LAI KOK FU	BE (HONS) (UTM) (ELECT, 03)
28376	LIM PUI LANG @ RACHEAL	BE (HONS) (UMS) (ELECT & ETRONIC, 01)
23169	LIM YEE CHARD	BE (HONS) (UMIST) (ELECT & ETRONIC, 02)
24746	MOHAMMAD EFFENDY BIN YAACOB	BE (HONS) (UPM) (ELECT & ETRONIC, 03)
ELECTRONIC ENGINEERING		
33776	AHMAD ZULHASMIE BIN MAMAT	BE (HONS) (UTM) (E'TRONIC, 01)
26804	LOH CHAN YEE	BE (HONS) (UNITEN) (E'TRONICS, 04)
MECHANICAL ENGINEERING		
21358	IZRUL BIN IDRIS	BE (HONS) (UITM) (MECH, 01)
3178	LIM HUI CHUAN	BE (HONS) (UM) (MECH, 80)
26835	MUHAMAD SUHAIMI BIN DERIS	BE (HONS) (UKM) (MECH, 00)
27123	OOI CHEE SIONG	BE (HONS) (UTM) (MECH, 01)
36860	SAFARI BIN SAAD	BE (NAGAOKA UNI OF TECH) (MECH DESIGN & PRODUCTION, 97)
20412	SAIFULA AZIZI BIN MOHAMAD SAAD	BE (HONS) (UPM) (MECH, 99)



LATEST UPDATE!

CONTRIBUTION TO IEM BUILDING FUND

RM763,322.40 from IEM Members

RM340,502.00 from Private Organisations

TOTAL

RM1,103,824.40

(ANOTHER RM11,046,175.60 IS NEEDED)

IEM wishes to take this opportunity to thank all members who have contributed and would like to appeal for support from members who have not yet contributed

HELP US TO PROVIDE BETTER SERVICES TO YOU AND TO THE FUTURE GENERATION

DONATION LIST TO THE NEW IEM BUILDING FUND

17th
Announcement

The Institution would like to thank all contributors for donating towards the new IEM Building Fund. Members and readers who wish to donate can do so by downloading the form from IEM website at <http://www.iem.org.my> or contact the IEM Secretariat at +603-79684001/2 for more information. The list of the contributors as at May 2009 are shown as below.

NO.	MEMBERSHIP NO.	DETAILS	NO.	MEMBERSHIP NO.	DETAILS	NO.	MEMBERSHIP NO.	DETAILS
1	M24492	ABDUL AZIZ BIN MAT ALI	73	G16824	DR ARIFFIN BIN SAMISURI	145	M22936	LIAW WEI LOONG
2	M11411	ABDUL MALEK BIN HAMZAH	74	M20908	DR BOEY CHONG FATT	146	M07740	LEW WENG LUM
3	G24363	ABDUL MANAF BIN RAJIKAN	75	F05676	DR KOAY CHENG HONG	147	M13215	LIAM CHEE KOK
4	G17243	ABDUL RAZAK BIN AHMAD	76	G18122	DR KOK BOON CHING	148	M05864	LIM GU WOOD
5	G26794	ABU MUSAB BIN HAMZAH	77	G19337	DR MOKHTAR HARUN	149	M20165	LIM KEIN SENG
6	G33900	AHMAD FIDRUS BIN AZMI	78	F01962	DR ZA-CHEH MOH	150	M19697	LIM KOK ONN
7	M21881	AHMAD NAZRY BIN SARNI	79	G32653	FADZLYSHAH BIN CHE ABD RAHMAN	151	M04852	LIM PENG HONG
8	G12104	AHMAD QISTI BIN RAMLI	80	G32653	FADZLYSHAH BIN CHE ABD RAHMAN	152	G03742	LIM SOO GUAN
9	M22228	AHMAD RAFIDI BIN MOHAYIDDIN	81	G24610	FARUZMARLA BIN MERIKAN	153	M09666	LIM TOKK CHING
10	G29651	AHMAD SAVUFEI BIN ZAINUDDIN	82	G25602	FARAH HAZNEE BINTI AHMAD	154	G23081	LIM WEI HOUI
11	M05367	AHMAD SUHALI BIN HAJI MD. HASHIM	83	M07864	FOO KEE SENG	155	M10314	LING HOW CHING
12	G25753	AHMAD TARMIZI BIN ALI	84	G20696	GAN AIK HIN	156	M00801	LING HOW CHONG
13	M13440	ALI R. EBADI	85	M04904	GAN TIAN ENG	157	M07017	LING LAI KOONG
14	M02530	ANANTARAJU PILLAI	86	G25182	GQH KENG LOONG	158	M14859	LO JEE SIN
15	M17941	ANG TOON THUT	87	G29769	HAKIM ON	159	G22457	LO YEE HANG
16	F04961	ASOK KUMAR S/O HARILAL HIRA PATEL	88	M13447	HAH SOOI SANG	160	M00818	LOH CHOW KHUAN
17	G30642	AZHAN BIN AB MAJID	89	M13337	HAJI ISHAK BIN NORDIN	161	M07078	LOO YEW CHUEN
18	G10473	AZHAR BIN JAMIL	90	M13760	HAJI MOHD REZZUAN BIN MOHD RAMLI	162	G06744	LOW TEONG SENG
19	M16410	AZZAN BIN ABD. AZIZ	91	G07400	HARDANLIT SINGH S/O S.G. GOSAL	163	S21055	LUI HUNG CHEK
20	G29672	AZMIL HAZWAN BIN AHMAD TARMIZI	92	G07390	HARUN BIN ISMAIL	164	G24303	LUM CHUNG MANN
21	G33840	AZRUL HANIF BIN AB. HALIM	93	M22602	HJ AHMAD KHARIRI BIN ABDUL GHANI	165	G03862	MANSUR BIN GHAZALI
22	M08323	BAHARUDIN BIN BAHAROM	94	S12677	HO KONG SOON	166	G07285	MARK HENRY CHELLA
23	M26477	BON WOO CHEOK	95	G29743	HO POOK KWAN	167	G15389	MASLENA BINTI MELAN
24	M08223	CHAI KO HET	96	M10654	HOW LIN HONG	168	G15588	MAZLAN BIN MOHAMED
25	M17568	CHAI SHOON LEONG	97	G12161	HUI SWEE HUAT, GILBERT	169	M09886	MOHAMMAD BIN ABD. SAMAD
26	M03770	CHAN CHEE KEONG	98	M05891	ISHAK BIN HJ. OMAR	170	G32599	MOHAMMAD FAISAL BIN ISMAIL
27	G26968	CHAN CHIEW YIN	99	S10274	ISMAL BIN HJ. AHMAD	171	G25507	MOHAMMAD RAZIF BIN ISMAIL
28	F02569	CHAN WEE SIN	100	M16661	ITSAN NAGUB SENG	172	M04906	MOHAMMAD NAGUB BIN MAHFOOZ
29	M15793	CHANG CHEE CHEONG	101	G28685	JASVINDER SINGH PANTJIA A/L OPKAR S.	173	M24212	MOHAMMAD NOR BIN OTHMAN
30	G14219	CHE KU RAMLAN BIN CHE KU IBRAHIM	102	G12451	JONATHAN SAWING GALLEH	174	M24382	MOHAMMAD USRI BIN MOHAMMAD YACOB
31	G04797	CHEAH SWEE AK	103	G10719	JUDE MATTHEW SIDORE	175	M01019	MOHAMED BIN SESAH
32	M15380	CHEE HOCK CHUANG	104	G20425	JUNAIDI BIN JAMALUDDIN	176	M06538	MOHAMED YAKUB BIN ISMAIL
33	M17967	CHEE KAR MING	105	M14355	KADRISMAN BIN SARAJUOL	177	G30515	MOHD ADINOR BIN SHUKOR
34	M05505	CHEEN CHAI	106	M12533	KAMARUDIN BIN ABD. KARIM	178	G31733	MOHD AZMI BIN JUSOH
35	G24966	CHENG ENG CONG	107	G29644	KAMARUL HISHAM BIN SALEHUDDIN	179	S22170	MOHD HAKMULLAH BIN MD SAMISURI
36	M06400	CHEONG CHEE HOONG	108	M14838	KAMARUZZAMAN BIN MUHAMMAD	180	M18891	MOHD HISHAM BIN IBRAHIM
37	G25597	CHEONG CHUN YEW	109	M17362	KAMSANI BIN JOHAN	181	G34000	MOHD KHAIROON BIN MOHD TAHJA
38	M18371	CHEONG SANG WENG	110	G11620	KASIM BIN GANI	182	M12557	MOHD NAZRI BIN MOHD JAMIL
39	M16394	CHERYL CELILIA SAROL UDARBE	111	G21430	KHARUL AZMAN BIN ISMAIL	183	M19697	MOHD NORZI RAFUZI
40	M12270	CHEW AI BENG	112	M16959	KHARLUDDIN BIN DIN	184	G25449	MOHD NORHAZLEE BIN NAMAWI
41	M03392	CHEW HOE MUN	113	M22477	KHARUL AMIN BIN NAIM	185	M24170	MOHD SALLEH BIN NGAH MAT DRUS
42	F09656	CHIA GHHAU KHIONG, PETER	114	G18460	KHARUL ANUAR BIN SHAMSUL BAHRI	186	M15521	MOHD SHA'RI BIN MOHAMMED
43	M05111	CHIA NYAN FATI	115	M13405	KHALID BIN ESA	187	M01099	MOHD. GHAZALI BIN HJ. HAMZAH
44	M04326	CHIA FIT SHIN, EDWIN	116	M04907	KHALID BIN HAMZAH	188	M14335	MOHD SOONG HONG
45	M14327	CHENG LEE HONG	117	F01229	KHAW TEO GIAP	189	M23964	MU MUNG SILUNG
46	F08592	CHIEW HUEY SHENG	118	M32685	KHO LIANG KUNG, RICHARD	190	M16627	MUDA BIN IBRAHIM
47	M04673	CHIN NEEP HING	119	M13718	KHOO LAU @ CHIU ER LAH	191	G30621	MUHAMMAD KHARUL AZAM BIN HASSIM
48	F02229	CHING GOO KIA	120	M07745	KHOR SAY POH	192	M11972	MUHAMMAD RAFIZ BIN IBRAHIM
49	M22293	CHING SOON JIN	121	M07160	KOH JIT HUAT	193	G11232	MUHAMMAD AMRI BIN ABDUL RAHMAN
50	G11096	CHO MING KANG, PAUL	122	M09916	KOK BEE CHUAN	194	M16217	MUHAMMAD ASHRI BIN MUSTAPHA
51	M24205	CHONG YIN SHIH, BERNARD	123	G17223	KUAN ENG YEW	195	G26773	MUHAMMAD KHARUL AMILIN BIN ISMAIL
52	M05616	CHONG YIT WAH	124	S16727	KUEK KEN SIN	196	M25507	MUHAMMAD RAZIF BIN ISMAIL
53	M16835	CHOO BENG LYE	125	G09552	KUNG TIN SIAK, ANTHONY	197	M21290	MUHAMMAD ROYAN BIN MOHD ADNAN
54	M23927	CHOO CHEE MING	126	M14559	LAI YEW KHUAN	198	M15533	MUHD. SALMIZI BIN JAAFAR
55	G30650	CHOO YEUN FEONG	127	M07826	LAU LEE YENG	199	M24360	MUKHTAR BIN CHE ALI
56	G33707	CHU CHEE YANG	128	M25008	LAU PEI CHEN	200	M01494	MUKHTAR SINGH
57	M16763	CHU FU AN	129	G21681	LAW YAN CHEE	201	G09016	MUSA BIN OMAR
58	S13505	CHUA BOON HWEE	130	M14510	LEE CHEE MENG	202	M16527	MUSTAFA KAMAL BIN HASHIM
59	M04800	CHUA BOON TIONG	131	AM29738	LEE CHOO YONG	203	M15254	NG CHIN MENG
60	M01331	CHUAH CHAI YEW	132	M27549	LEE CHOONG WEI	204	G18798	NG CHOW SOON
61	M02438	CHUAN CHEONG JIN	133	M07073	LEE KEE CHEW	205	M24199	NG EAK TONG
62	M14129	CHUNG CHEE TUCK	134	G17460	LEE KENG PENG	206	G22535	NG HAN EIK
63	M04721	DATO' DR AZHAR BIN AKHYAK	135	M05617	LEE KOI CHIN	207	M03152	NG KAM WENG
64	F01465	DATO' CHUA SOON POH	136	M01422	LEE SIAN KAT	208	G29678	NG PU LING
65	M11329	DATO' LEVI CHIN HOI	137	S15087	LEE SOOI FOOT	209	M01980	NG TACK YONG
66	M14823	DATO' MOHO GHAZALI BIN KAMARUZAMAN	138	M01870	LEE WAH	210	M07000	NGU MENG HO
67	H14616	DATO' SERI HJ. MOHAMMAD NIZAR BIN JAMALUDDIN	139	M03922	LEONG CHIEW SENG	211	S05709	NIK AB RAHIM BIN NIK ISMAIL
68	M04886	DATO' TAN CHEE KEONG, WILLIAM	140	M03759	LEONG KAN LEE	212	M09359	NIK MOHD. NASER BIN NIK AHMAD
69	F01363	DATO' TAN CHONG MENG	141	M03342	LEONG KHOO HENG	213	M14306	NIRINDER SINGH AL JASSIR SINGH
70	M04784	DATUK AYOB BIN HAJI YAKUB	142	M12893	LEONG YEE LUNG	214	M17040	NOOR AZAM BIN MD SAAD
71	M00285	DATUK NASIR YEO GUAN HOCK	143	M15803	LI THANG FAI	215	G29201	NOORFAZAH BINTI ROSLI
72	G33726	DENNIS ANAK ENYANG	144	M09918	LIANG YEW CHI	216	G16396	NORZAL BIN ABU BAKAR

NO.	MEMBERSHIP NO.	DETAILS	NO.	MEMBERSHIP NO.	DETAILS	NO.	MEMBERSHIP NO.	DETAILS
217	G28999	NURUL HUDA BIN ROMLI	250	M03273	SYED ZAIN AL-KUDDY	283	G30682	TUEN WAI KEONG
218	M29089	OMAR BIN EBRAHIM	251	F00874	T.S. GILL	284	G24420	WAN AIZA BINTI WAN AB. AZIZ
219	G04611	OOI TEONG CHEAU	252	G06349	TAI TEONG SENG	285	M28253	WAN AZIZUL AZRI BIN WAN ABDUL AZIZ
220	M07431	OTHMAN BIN ABDUL KADIR	253	G09412	TAM MUN PUN	286	M141786	WAN MOHAMAD NASSI BIN WAN MOHAMAD
221	M14396	PHUA FOO YONG	254	G07604	TAN AH HOCK	287	M06584	WAN SAPANSORI BIN WAN ABD. GHANI
222	M12487	PHUNG JEE KIONG	255	M03845	TAN HUI KUAN	288	M07348	WILLIAM BHOOPALA JOSEPH
223	M11588	POOK FONG FEE	256	M15831	TAN KAI BOON	289	G22000	WONG FOO HIN
224	M14665	PRABAKARAN RAJAH THIAGARAJAH	257	M07242	TAN SEE CHEE	290	M022373	WONG FOOK CHEE
225	F09033	PROF. DR AHMAD FADZIL BIN HAJI MOHD. HANI	258	M04003	TAN SWEE GUAN	291	M34170	WONG HAI HIE
226	M10217	PROF. DR RIZA ATIQ ABDULLAH O.K. RAHMAT	259	F00042	TAN YOK HING	292	M02208	WONG NAM YUN
227	M01793	PROF. MOHAMAD AFIFI BIN ABDUL MUKTI	260	G20694	TANG CHOON HAI	293	M22245	WONG SIE LUNG
228	G07021	PUA BENG SAUN	261	M21697	TANG KWANG	294	M16999	WONG WA MUN
229	M05722	RAZALI BIN MUDA	262	M12770	TANG SING WILONG, PETER	295	F07039	WONG YII HENG
230	G20933	ROZMAN BIN KASMANI	263	G04686	TAY CHWEE LEONG	296	M18994	WOO AH KEONG
231	G07231	SAM MAN KEONG	264	G20099	TEE BENG HOCK	297	G21870	WOO HOI DEAN
232	M03560	SANI BIN SIDIK	265	G12801	TEE LHM DER	298	M16342	YAP KIM HONG
233	M00914	SATKURLINATHAN S/O CHELLIAH	266	G05159	TEE SWEE TIT	299	M33073	YAU TZE YIN
234	M01699	SAW KONG HOOI	267	G24417	TEH GAIK TENG	300	M07484	YEO KIM HING
235	G13400	SEET JEN PING	268	F01690	TEH HEE SEANG	301	M02754	YEOH CHEANG TIAT
236	M02679	SEH CHONG PENG	269	M21748	TEH HUCK NGI	302	G22913	YEOH CHEN WERN
237	M13705	SHAHJUDIN BIN HAJI ANUAR	270	M15071	TEH POOI KUANG, ALLEN	303	M23483	YEONG CHEE HOE
238	G20383	SHAMSUL BAHRY BIN AMIRUDIN	271	M03776	TEH TEIK HOE	304	G22215	YII TOH LEONG
239	M17613	SILAHUDDIN BIN SAIBANI	272	G28891	TEH YING KHAI	305	M25831	YONG HUA KEH
240	M17684	SIN WAI HO	273	M02548	TEO HOCK YEOU	306	M13466	YONG KAH HIAN
241	G18845	SIOW KWONG WOON	274	M11465	TEO KIM CHOW	307	G30840	YONG POI HING, HENRY
242	M18237	SIRAJA HJ BASHORA	275	G17519	THAM CHEE MENG	308	G22283	YONG SHAW YEOU
243	G34330	SITI MAZLINAH BINTI ABDUL RAHIM	276	M18174	THAM KIM YON	309	M02163	YONG YUN FUJ
244	M11173	SWARAJAH S/O SUNDARAM	277	G10445	TIANG KONG HING	310	M10725	YU POW SENG
245	G34246	SVARAJAL KRISHNA	278	AK23226	TING HONG YEI	311	F10330	ZAKARIA BIN KHALID
246	M14875	SUBRAMANIAM A/L V. GOPAL	279	G25094	TIONG CHUNG KONG	312	G28034	ZAFRI BIN ALWI
247	G08323	SULAILI BIN EDI	280	M05691	TOH HOCK LIONG	313	F16967	ZAFRI BIN MD. ZAIN
248	M01215	SURYAMURTHY S/O S. NARAYANAN	281	M06115	TONG NAM KHONG	314	F03219	ZAMALI BIN MUDUN
249	M14244	SYED MOHAMAD FAUZI SHAHAB	282	G22685	TUAN ADNAN BIN TUAN SIPAT			

RECOGNITION/BENEFITS LIST FOR DONATIONS OR LOAN TO IEM BUILDING FUND

1. LOAN

Members may give out loans to IEM in the following denominations:

Loan Amount	Entitlement
(i) RM1,000 – RM2,000	Talk voucher worth RM100. Discount vouchers worth RM50. Valid for five (5) years.
(ii) RM2,001 – RM5,000	Talk voucher worth RM200. Discount vouchers worth RM100. Valid for five (5) years
(iii) Above RM5,000	Talk voucher worth RM200. Discount vouchers worth RM200 to attend IEM courses/seminars.

From year 6 onwards, IEM can begin to repay members' loan and withdraw the privileges accorded but maintain the recognition awarded.

2. DONATIONS FROM MEMBERS

Donation Amount	Recognition
(i) RM1,000 – RM2,000	Talk voucher worth RM100. Discount vouchers worth RM50. Valid for five (5) years. 12pt sized. Engraving on the Donation Board.
(ii) RM2,001 – RM5,000	Talk voucher worth RM100 and Discount vouchers worth RM100 to attend IEM courses seminars. Valid for five (5) years. 14pt sized Engraving on the Donation Board.
(iii) RM5,001 – RM10,000	Talk voucher worth RM200 and Discount vouchers worth RM200 to attend IEM courses/seminars. Valid for five (5) years. 16pt sized Engraving on the Donation Board. Naming of one Division of Secretariat office.
(iv) RM10,001 – RM20,000	Talk voucher worth RM200 and Discount vouchers worth RM200 to attend IEM courses/seminars. Valid for five (5) years. 18pt sized Engraving on the Donation Board. Naming of small Meeting room.
(v) RM20,001 – RM50,000	Talk voucher worth RM200 and Discount vouchers worth RM200 to attend IEM courses/seminars. Valid for five (5) years. 18pt sized Engraving on the Donation Board. Naming of medium sized Meeting room.
(vi) RM50,001 – RM100,000	Talk voucher worth RM200 and Discount vouchers worth RM200 to attend IEM courses/seminars. Valid for five (5) years. 18pt sized Engraving on the Donation Board. Naming of large sized Meeting room.
(vii) RM100,001 – RM150,000	Talk voucher worth RM200 and Discount vouchers worth RM200 to attend IEM courses/seminars. Valid for five (5) years. 18pt sized Engraving on the Donation Board. Naming of Resource Centre/Library.
(viii) RM150,001 – RM200,000	Talk voucher worth RM200 and Discount vouchers worth RM200 to attend IEM courses/seminars. Valid for five (5) years. 18pt sized Engraving on the Donation Board. Naming of Conference Room.
(ix) RM200,001 – RM300,000	Talk voucher worth RM200 and Discount vouchers worth RM200 to attend IEM courses/seminars. Valid for five (5) years. 18pt sized Engraving on the Donation Board. Naming of Auditorium 1.
(x) RM300,001 – RM500,000	Talk voucher worth RM200 and Discount vouchers worth RM200 to attend IEM courses/seminars. Valid for five (5) years. 18pt sized Engraving on the Donation Board. Naming of Auditorium 2.

(IEM is still looking into applying for Tax Exemption status for the IEM Building Fund)

DONATION/LOAN REPLY FORM

Chairman
IEM Fund Raising Committee (Building Fund)
The Institution of Engineers, Malaysia, P.O. Box 223, (Jalan Sultan), 46720 Petaling Jaya, Selangor Darul Ehsan

Date: _____/_____/2009

Dear Sir,

IEM BUILDING FUND

LOAN DONATION (Please indicate ✓ where applicable)

Enclosed herewith a Cheque/Bank Draft/Money Order/Postal Order* No..... for RM..... for the abovementioned made payable to 'IEM Building Fund' Account.

Please charge to my credit card the amount of RM for the abovementioned.

Card: Visa MasterCard Expiry Date: /

Card Number: / /

Name: _____

Address: _____

Contact No.: _____

Email: _____

Signature _____



IEM TRAINING CENTRE SDN BHD (127273-K)

(Wholly owned subsidiary of The Institution of Engineers, Malaysia)

No 33-1A (1st Floor), Jalan 52/18, P.O. Box 224 (Jalan Sultan P.O.), 46720 Petaling Jaya, Selangor Darul Ehsan. Tel: 603 7958 6851 Fax: 603 7958 2851
Email: iemtcbs@gmail.com Website: http://www.iem.org.my

MESSAGE FROM IEM TRAINING CENTRE – INSURANCE AGENCY

Dear Members,

IEM Training Centre has put in place a plan to establish itself as a one-stop centre for your insurance needs and we look forward to your support to realise this plan. The response to our motor insurance started off poorly, however, there is an upward trend in the number of members supporting us, the most likely reason being their policy has yet to expire.

For more details relating to the following products, you can view them via the IEM Website>Training Centre and Insurance

FIRE INSURANCE OFFICE PACKS

This is a very special package policy especially for Consulting Engineers because it comprise seven classes of insurance under a single policy at a very competitive premium. This package policy covers many unlikely events if anything unfortunate happens in your office. Take the following as an example and check your existing policy for the coverage and premium.

Description of coverage	Amount Insured	Premium (RM)
Fire on building, renovation, contents (excl. office equipment)	RM500,000	420.00
Burglary	RM75,000	-
Money in Premises, Transit	RM7,500 for each	-
Plate Glass	RM7,500	-
Fidelity Guarantee	RM10,000	-
Office Equipment All Risk incl. laptops, notebooks	RM75,000	-
Public Liability	RM500,000	-
All the Classes of Insurance	-	RM450.00
TOTAL PREMIUM PAYABLE:	-	RM870.00

(Note: Additional perils, higher sum insured, etc, are possible with additional premium via endorsement subject to insurer's acceptance.)

MOTOR INSURANCE

Our motor insurance provides minor roadside repair and free tolling to the workshop of your choice, if your existing policy does not have the facilities, you may want to switch over to IEM. You never know when your car will breakdown on you and it is not a nice feeling when you have nobody to call upon to assist. Do not take such a risk, insist on a motor policy that provides you with minor roadside repair and free tolling.

PERSONAL ACCIDENT INSURANCE

There are a number of plans to select which matches your budget. If you wish to purchase on a Group Basis, you can always contact our Insurance Office at the Training Centre.

OVERSEAS TRAVEL PERSONAL ACCIDENT

Apart from personal accidents while travelling overseas, one of the main concerns is the medical expense. Medical expenses can be very expensive especially for foreigners. One of the key features of this product, which is not commonly available, is the SOS service. The SOS service will be provided if, in the event that you are in a remote area and fallen ill, and there are no medical facilities available to treat your particular illness, you can contact SOS and be transferred to the nearest medical centre with such facilities. This is a very important coverage if you visit remote historical sites.

PROFESSIONAL INDEMNITY INSURANCE (PII)

If you already have a PII, you may wish to call IEM Training Centre so that you can get a comparative quotation. If you need more explanation you can also contact IEM Training Centre. A presentation can be arranged without any obligations, but we remain hopeful that you would support IEM Training Centre.

Visit the IEM website and select the Training Centre and Insurance tab to get all the details. Please provide us with feedback so that we can serve you better.

Job Vacancy Advertisement at IEM's Website and Notice Board

Please be informed that IEM provides job vacancy advertisement through the IEM Website and Notice Board to its members and non-members who are looking for engineers on a full time/contract or on part-time basis to fill job vacancies in their respective companies. The 'Job Vacancy Advertisement Form' and 'Its Terms and Conditions' are available at the IEM website, www.iem.org.my or you may contact En. Ahmad Tarmizi, the IEM Secretariat at 03-7968 4019 for more details.

Job seekers can search for their desired employment in the IEM Website under 'Job Gallery' section for the latest job vacancy advertisements.

Thank you and best regards,

Chairman
Standing Committee on Welfare and Service Matters
The Institution of Engineers, Malaysia

IEM JOB MATCHMAKE

A Job Emplacement Programme Specially For IEM Members

Specially to all IEM members,

IEM JOB MATCHMAKE!

A project to matchmake IEM members with potential employees.

**REGISTER FOR
FREE**

**ENHANCE YOUR
CAREER PROSPECTS!**

**CONTROL THE CONFIDENTIALITY
OF YOUR RESUME!**

GET HEADHUNTED

**APPLY TO
JOBS EASILY!**

IEM is now offering a service to IEM members who may be threatened by recent retrenchments due to companies feeling the effects of the economic slowdown.

As news of retrenchments and company downsizing has become more evident in this part of the region, some may face a hard time in their careers. Rest assured, we are here to help. We have our secretariat that can help place affected job seekers in jobs that is suitable to them. However, please be reminded that there is no guarantee.

By applying through this application, IEM members will allow us to send their resumes to our large pool of clients. We may call for further details if required.

All you have to do is to download the forms and e-mail to us and we will update you from time to time. Please submit your application by using the form attached to the following :-

The Chairman
Standing Committee on Welfare and Service Matters
The Institution of Engineers, Malaysia
Bangunan Ingenieur, Lots 60/62, Jalan 52/4
P.O. Box 223 (Jalan Sultan)
46720 Petaling Jaya, Selangor
Email: mizi@iem.org.my
Tel. no.: 03-7968 4019
Fax no.: 03-7957 7678
Website: <http://www.iem.org.my>

CONDITIONS OF APPLICATION

The IEM is providing this service to its members who are looking for job emplacement on a full time/contract or on part-time basis to fill job vacancies available in companies that has advertised in IEM Website.

NOTES:

- 1) Members to provide details by completing the 'IEM Job Matchmake Form';
- 2) No charges is imposed;
- 3) Kindly send through e-mail to mizi@iem.org.my or sec@iem.org.my and attach the softcopy of your resume;
- 4) IEM does not guarantee the success in finding the desired job. This service is only an alternative medium to assist members who had been retrenched or who are looking for employment;
- 5) IEM is not liable for any information disclosure in your resume to the various companies.



The Institution of Engineers, Malaysia

IEM JOB MATCHMAKE FORM

A Job Emplacement Programme Specially For IEM Members

To:
Chairman
Standing Committee on Welfare and Service Matters
The Institution of Engineers, Malaysia
Bangunan Ingenieur, Lots 60/62, Jalan 52/4,
P.O. Box 223 (Jalan Sultan),
46720 Petaling Jaya, Selangor Darul Ehsan
Tel: 603 7968 4019 Fax: 603 7957 7678

(Kindly tick '✓' where necessary)

Member's Name : _____

Membership No. : _____ Grade : _____ Age : _____

Address : _____

Contact Details : (T) _____ (F) _____ E-Mail : _____

Evidence to be : Photocopy of IEM membership card

Submitted Photocopy of NRIC

Pension Card or Retirement letter from Employer

Kindly attach your Current Resume for record purpose and further action.

Declaration,

I, _____ (Name) hereby certify that the above information/ documents are true and
complied with IEM conditions for application.

Signature

Date

FOR OFFICE USE ONLY

Resume submitted to (Company's name) : _____
for consideration

Date Submitted : _____

Authorised Signature:

Acceptance : _____

Result : _____



IEM DIARY OF EVENTS



For further enquiries on the events below, please visit IEM Homepage at <http://www.iem.org.my> or email IEM Secretariat at sec@iem.org.my for further information and forms.

Chemical Engineering Technical Division

6 - 8 SEPTEMBER 2009
CETD Study Tour to Bintulu, Sarawak

Civil and Structural Engineering Technical Division

30 SEPTEMBER 2009
Talk on "Electrical Power Transmission Structure"
Venue: C&S Lecture Room, 2nd Floor, Wisma IEM, PJ
Speaker: Ir. Shan Suleiman
Time: 5.30 p.m. to 7.30 p.m.

Electrical Engineering Technical Division

6 OCTOBER 2009
Talk on "Extension of Electrical Equipment Asset Life Cycle through Reliability Methodologies and Recommended Maintenance Strategies"
Venue: C&S Room, 2nd Floor, Wisma IEM, PJ
Speaker: Engr. Lam Sing Yew
Time: 5.30 p.m. to 7.30 p.m.

Engineering Education Technical Division

7 OCTOBER 2009
Virtual Lab in Engineering Education
Venue: C&S Room, 2nd Floor, Wisma IEM, PJ
Speaker: Engr. B. Balamuralithara
Time: 5.30 p.m. to 7.30 p.m.

Sub-Committee on Dispute Resolution Practice

31 OCTOBER 2009
Short Course on Arbitration
Part I: development of Arbitration in IEM
Part II: IEM Arbitration Rules (2003):
Special Features for Promoting Efficiency on Time and Cost
Venue: C&S Lecture Room, 2nd Floor, Wisma IEM, PJ
Speaker: Engr. CK Khoo
Time: 9.00 a.m. to 1.00 p.m.
Fees: IEM Member – RM 50.00
Non-IEM Member – RM 100.00

IEM Training Centre

2-3 NOVEMBER 2009
Workshop and Exhibition on "Engineering a Sustainable Economic Development Model for Malaysia"
Venue: Holiday Villa Subang Jaya, Selangor
Time: 8.00 a.m. to 6.00 p.m.
Fees: IEM Member – RM 500
Non IEM Member – RM 700

MAJOR EVENTS

30 NOVEMBER - 2 DECEMBER 2009
27TH CAFEO: ENGINEERING FOR SUSTAINABLE ENVIRONMENT (Call for papers)
Venue: Suntec City Convention Centre, Singapore
Tel: +603 7968 4001/2
Fax: +603 7957 7678
E-mail: sec@iem.org.my
Fees: USD100.00
(Invitation to register)

1 - 3 MARCH 2011
INTERNATIONAL CONFERENCE AND EXHIBITION ON TUNELLING AND TRENCHLESS TECHNOLOGY
Venue: Sheraton Subang Hotel and Towers
Tel: 603 7968 4001/2
Fax: 603 7957 7678
E-mail: Tunnel2011@iem.org.my
Website: <http://www.iem.org.my>
(Invitation to register)

CONFERENCES & SEMINARS



MALAYSIA

8 OCTOBER 2009 AND 19 NOVEMBER 2009
PREVIEW:FIDIC CONSTRUCTION CONTRACT - A CLAUSE BY CLAUSE GUIDE
Venue: Kuala Lumpur
Tel: 603 2287 5175 (Ms. Sheila K)
Fax: 603 2287 5176
Website: www.charltonmartin.com
(Invitation to register)

3-5 NOVEMBER 2009
2ND CONSTRUCTION INDUSTRY RESEARCH ACHIEVEMENT INTERNATIONAL CONFERENCE (CIRAIC 2009)
Venue: CIDB Convention Centre, Jln Cheras, KL
Tel: 6013 341 4908 (En. Mohd. Khairolden)/
6012 628 9116 (Puan Maria Zura)/
6012 346 5824 (Cik Intan Juliana)
Email: khairolden@cidb.gov.my/
maria@cidb.gov.my/
intan@cidb.gov.my
(1st announcement and Invitation to register)

17 NOVEMBER 2009
NATIONAL PV CONFERENCE AND EXHIBITION 2009
Venue: Putrajaya Marriott Hotel, Putrajaya, Malaysia
Organiser: Malaysia Building Integrated Photovoltaic Project (MBIPV), Malaysia Energy Centre (PTM)
Tel: +603 8921 0866
Fax: +603 8921 0911
E-mail: weinee@mbipv.net.my
Website: <http://www.mbipv.net.my/NPVC2009.html>
(Invitation to register)

19-20 DECEMBER 2009
7TH INTERNATIONAL CONFERENCE ON ROBOTICS, VISION, SIGNAL PROCESSING AND POWER APPLICATIONS (RoViSP'09)
Venue: Langkawi, Kedah
Tel: 604 5996011/61
Fax: 604 5941023
E-mail: rovisp09@rovisp.org
Website: www.rovisp.org
(Call for Papers and Invitation to Register)

SINGAPORE

9-11 DECEMBER 2009
INTERNATIONAL SYMPOSIUM ON GROUND IMPROVEMENT TECHNOLOGIES AND CASE HISTORIES (ISGI09)
Venue: Professional Activities Centre, NUS Faculty of Engineering, B1k EA, #05-34 Singapore 117576
Tel: (65) 6516 5113 Fax: (65) 6874 5097
E-mail: ISGI09@nus.edu.sg
(Invitation to register)

CONDOLENCE

We wish to inform that the following members

Engr. Rakesh @ Rakesh Joshi a/I K.N. Joshi (M05925), passed away on 25 March 2009

Engr. See Hoong Hing, Grad. IEM (G07028), passed away on 24 September 2008

Allahyarham Engr. Wan Sha'ari bin Wan Hassan (M11903), passed away on 30 August 2008

On behalf of the IEM Council and management, we wish to convey our deepest condolence to the bereaved families and would like to thank them for their past support and contribution to the Institution.



PROFESIONAL INTERVIEW ESSAY NO.1

by **Engr. Yeoh Eng Chin**, MIEM, P. Eng.

QUESTION SECTION A

- 1.0 Describe in detail the task that you have undertaken in the risk assessment application for the placement of auto-reclosers in a distribution network. What was the primary causes of faults and the preventive measures to prevent outstages on a distribution feeder. Describe the methodology to determine the most economic location of auto-reclosers and their numbers to be installed.**

THE risk assessment application for the placement of auto-reclosers in a distribution network involves various tasks. First and foremost, it requires an understanding of the concept of risk applications. This can be achieved through a literature review of the subject matter which includes:

- Materials on risk assessment from books published and made available through libraries.
- Papers published on works carried out, and the findings of applications made available through the IEEE Explore website.

With such an understanding, the hazards involved in the case can then be identified, together with the related variables required for the application. Among the tasks taken to formulate the application were:

1. SITE VISITS

Site visits are necessary to further investigate and understand the problems faced in this issue. Several visits are made to acquire the required data. Among them are:

- **Line topology:** The overhead lines were physically inspected to determine the probable cause of trippings. The data recorded includes line clearance, vegetation growth and pole placements. The data collected includes every span of the feeder being studied.
- **Weather condition:** This was acquired from the local metrological department. Wind speed, lightning days and storm days were among the data supplied. These data were then used to try and correlate the weather conditions with the fault occurrence days to investigate if the weather played a major role in these faults.
- **Interruption data:** This was acquired from the local utility office from their network database system. The data was then sorted and grouped to identify the causes to the supply interruptions.
- **Consumer data:** This data was also supplied by the office of the local power utility company. The data involved were the type and number of customers connected to the distribution feeders being studied.

2. LINE MODELLING

From the accumulated data, the model of the distribution overhead line was created. However, certain constraints and limitations had to be defined in order to support the model created. For example, the distance between two poles is assumed to be of equal distance throughout the feeder. It was also assumed that the faults occurring on the line is of similar effect, which resulted in the breakdown of the line causing interruption to the feeder. The data, with regards to the number of customers connected to the feeder, is assumed to be accurate as they were supplied by the utility office.

3. AUTO-RECLOSER PLACEMENT

The placement locations of auto-reclosers were then decided by comparing the line/feeder configuration. The selection of proposed points was in accordance with literature suggestions which are:

- Tee-off or spur line from the main feeder line.
- Midpoint of feeder length.
- One-third and two-third points of the feeder length.

These points were used as guidelines for simulation purposes.

4. ASSESSMENT APPLICATION

With the data applied to the model, the simulation was then carried out to determine the optimum point for placement. The task here was to identify the least-cost option, which basically translates to the minimal cost of losses both to the utility and the customers.

The primary cause of faults in an overhead line can be categorised as transient faults. Studies have shown that they contribute up to 80% of faults. In a study of the data for the feeder involved, the causes by temporary faults totalled to approximately 75%. Temporary or transient faults can be caused by:

- Tree contact (vegetation) on the distribution line.
- Lightning strikes on line or back flash.
- Animal intrusion, for example, snakes crawling and nesting on a transformer on a pole mounted substation, or birds causing flashover between phase bushing and ground.

Other primary causes can also be attributed to equipment failure. Preventive measures that can be introduced to mitigate outages:

- Rentice management – a periodic schedule of tree trimming to control vegetation growth.
- Lightning arrestors – installation of lightning arrestors at locations prone to lightning strikes to prevent flashover.
- Animal guard – to prevent or minimise the intrusion of animals to reduce unnecessary flashover.
- Insulating exposed terminals – provide and add insulation to exposed terminals.
- Equipment maintenance – regular preventive maintenance of equipment.

The methodology used in the study to determine the most economic location of auto-reclosers focus on the least-cost option. It takes into account the risk involved, which is the probability of the section of the line sustaining a fault and the cost involved if an interruption occurs. The costs involved are derived from:

- The loss of revenue for the utility company.
- The loss of load for the customers involved.

In this project, the spreadsheet that was developed first requires the user to input the topology of the feeder. The user then selects or indicates the location of choice for the auto-recloser’s placements. Up to seven placement points are made available. The spreadsheet then calculates the least-cost options and provides the details of every possible configuration of the seven locations.

The most economic locations are ranked from a single placement up to seven recloser placements. When applied, this methodology provides a first approximation for placement locations. The choice on where the placements should be calls for engineering judgment from the engineer. Additional factors to consider for placement may include:

- Cost effectiveness for the number of reclosers required.
- Redundancy of placement.
- Coverage or effectiveness of protection if it involves public figures.
- Time coordination if reclosers were placed in series. ■



PROFESIONAL INTERVIEW ESSAY NO.2

by *Engr. Nicholas a/l Maria Soosay Thas, MIEM, P. Eng.*

PART A – How do we improve the implementation of the CIMAH Regulations in Malaysia?

Safety, especially pertaining to major industrial accidents has been an important issue in the Malaysian chemical and petrochemical industries for many years. This is especially so where petrochemical industrial sites have been set up in certain states, for example, Kerteh, Gebeng, Pasir Gudang and Bintulu.

However, in the early 90s, pressure arising from the occurrences of catastrophic major industrial accidents both domestically and around the world and the need to ratify the International Labor Organization (ILO) convention on prevention of major industrial accidents was the main driving force for the setting up of the Control of Industrial Major Accident Hazards Regulations 1996, or CIMAH in Malaysia.

Malaysia did not ratify the ILO convention, but has adopted and used the guidelines published by ILO that gave birth to CIMAH. CIMAH is enforced under the ambit of the Occupational Safety and Health Act 1994. The enforcement framework of CIMAH is to regulate installations which store or process hazardous substances into two-tier categories based on the quantity of hazardous substances kept in the premises at any one time.

The upper tier is for plants with hazardous substances more than the allowed threshold quantities and is classified as

a Major Hazard Installation (MHI), whereas the lower tier is for plants having hazardous substances more than 10% of the threshold quantities, and such plants are classified as a Non-Major Hazard Installation.

Under the CIMAH Regulations, MHIs are required to prepare a Safety Report, On-Site Emergency Response Plan and inform the public about the activities undertaken on site, together with the necessary action to be taken in the event of an emergency. The CIMAH Regulations provide a very good framework for the industries to:

- Protect persons onsite and off-site, property and the environment from major accident hazards;
- Prevent occurrences of major accident hazards; and
- Minimise the consequences of such accidents, if they were to occur.

How these objectives can be achieved via the CIMAH Regulations will be explained below.

1) SAFETY REPORT

The safety report consists of four major parts that have been stipulated by the CIMAH Regulations. They are:

- Information relating to the hazardous substances;
- Information relating to the installation;

- c) Information relating to the system of management for controlling the industrial activity; and
- d) Information relating to a potential major accident in the form of risk assessment.

Parts (c) and (d) of the report are considered to be pivotal in the area of prevention of major accident hazards. Part (c) deals with the implementation of a safety management system which requires the commitment of all personnel in the plant. The sub elements in part (c) talk about assurance that the plant is properly designed, constructed, tested, operated and maintained. The arrangements of training personnel are also required in this part. The elements mentioned above are vital in ensuring that a plant operates within its specified design limits, hence preventing occurrences of upsets that could lead to a major hazard accident.

Whereas part (d) deals with risk assessment, which entails hazard identification, consequence analysis, probability analysis and risk estimation. It has to be ensured that the risks are within the limits set by the Department of Environment Guidelines, *i.e.* 1×10^{-6} fatalities per person per year should not encompass involuntary recipients of individual risks, such as residential areas, schools, hospitals, and places of continuous occupancy; and 1×10^{-5} fatalities per person per year should not extend beyond industrial developments. With the above specified limits, it is hoped that the occurrences of major hazard accidents can be prevented.

2) ON-SITE EMERGENCY RESPONSE PLAN

If a major hazard accident were to occur, an effective on-site emergency response plan has to be developed by the manufacturer to ensure that the consequences of major hazard accidents are reduced and the people on site are protected. The emergency response plan should be sent to the Department of Occupational Safety and Health (DOSH) for review, before being implemented in a particular site.

3) INFORMATION TO THE PUBLIC

It is a mandatory requirement for all MHIs to provide information to the public, on the activities on site and how to react in case of an emergency. The information has been specified in Schedule 3 of the CIMAH Regulations, and has to be distributed to the public at fixed intervals. With such a practice in place, the objective of protecting persons off-site and minimizing the consequences of major hazard accidents can be achieved.

The Safety Report and On Site Emergency Response Plan have to be re-submitted to DOSH at three year intervals, to ensure that the latest development on site or latest technological developments are taken into account.

Besides the three requirements spelt out above, MHIs are also required to submit information to the Local Authority, so that an off-site Emergency Response Plan can be developed to protect the people who are off site.

To ensure that the requirements of CIMAH are met, DOSH carries out audits frequently on all MHIs to determine their level of compliance to the CIMAH Regulations. A grading system has also been developed to ensure that sites with a lower grading are audited more frequently than sites with a higher grading.

However, after 12 years of enforcing the CIMAH Regulations, there have been certain shortcomings in the implementation of the aforesaid regulations. Each shortcoming is highlighted below with suggested actions for improvement.

i) Complete non compliance of CIMAH by the various industries

Currently there are only 222 registered MHI sites in the Major Hazards Division database. It has been noted that many industries, particularly water treatment plants, Liquefied Petroleum Gas (LPG) stockiest and distributors, together with other small and medium industries which store or utilise hazardous substances as defined by CIMAH, have failed to notify DOSH on their industrial activities. This is mainly due to lack of awareness among such industries, and a shortage of manpower in DOSH state offices to deal with such cases. Hence, DOSH has embarked on a re-organisation exercise which will see a significant increase in manpower, where each state office will have a unit looking specifically into CIMAH enforcement. With this measure in place, the abovementioned problem would be able to be rectified.

ii) No guidelines available on CIMAH compliance

The Health and Safety Executive in the United Kingdom has produced a guideline entitled 'A Guide to the Control of Major Accident Hazards 1984' which provides guidance on the relevant regulations. It is hoped that such a guideline would be made available soon in Malaysia, to ensure that CIMAH is complied with in its entirety.

iii) No co-operation by the Local Authority to prepare an off-site Emergency Response Plan

The CIMAH Regulations specify that the Local Authority in a particular area has to get information from the MHI, to prepare an off-site Emergency Response Plan. However, most local authorities have not come up with such a document. It is thus proposed that DOSH work together with all local authorities in order to provide proper guidance for the preparation of such a document.

iv) Review the need for Quantitative Risk Assessment (QRA) for certain MHIs

Currently, the knowledge and appreciation of risk assessment among manufacturers is low. Additionally, very few people are directly involved or are experts in this field. This is particularly so in the non oil-and-gas industries. Hence, a qualitative approach can be conducted, where hazards are identified and ranked based on likelihood and severity. Action taken is then prioritized based on risk ranking while adequate prevention and control measures to bring down the risks to acceptable levels are accomplished.

In conclusion, it can be said that the CIMAH Regulations has played its part in ensuring that major accident hazards are regulated in Malaysia. However, with the implementation of the proposal highlighted above, it is hoped that the implementation of CIMAH in Malaysia would be further enhanced.

PART B – QUESTION NO.12 :

In today's dynamic marketplace, many organisations/industries are initiating cost reduction measures to remain competitive. Discuss the contradictory demand of cost reduction programmes and the need to invest to enhance the standards of Health, Safety and Environment (HSE) in the industry. Is it possible to be cost effective yet meeting the ever increasing HSE requirements?

Money rules the world. This is a fact in today's world. Hence, industries are out there to primarily make money, where profits are set to the maximum whilst investment is always set to the minimum. And whenever there are financial difficulties, HSE is one area where the budget cut would be most felt. Hence, the question here is why is HSE always viewed as a liability? It is going to be highlighted below that HSE is actually not a liability to a company but an asset to create higher profits. If there are compromises to HSE, the following are the possible outcomes.

1) LOSS OF SKILLS

If an accident were to occur, the company would end up losing an employee, if it were a fatality; or losing the employee's skills, if it causes a serious permanent disability. All employees in a particular company have come to their position by many years of experience. If such an experienced person in a particular position is 'gone', it would require the company some time to look for a suitable replacement; and money would be spent to train him to the required level of competency. This kind of a situation can never be considered as being cost effective, as a loss of a skilled employee would result in the loss of money.

2) HIGH TURNOVER RATE

If people are not happy working in a particular place, due to unsafe and unhealthy conditions; they are not going to remain in that particular company for a very long time, as their life and limb are at stake. This would automatically lead to a high turnover rate of employees. In such cases, similar to point 1; the employer would have wasted money in re-training new recruits to replace the outflow of current employees. Money utilised for training the former employees could also be considered a waste, as they would not be able to contribute to the business anymore.

3) QUALITY AND PRODUCTIVITY

The quality of a product will be compromised when productivity is low. Low productivity could be due to the fact that the plant is unsafe and unhealthy. Hence, employees feeling unsafe at work would be unable to perform their tasks efficiently. For example, an automobile company in the country, where workers involved in assembling parts of the vehicle are not provided ergonomic workstations for their task has resulted in poor product quality. Contrast this with a similar industry overseas, which provide ergonomic workstations for all workers in the plant, also produces better vehicles. Poor

quality products would ultimately result in poor clientele and in the end bring in less revenue for the company.

4) INCREASED DOWNTIME

Any accident on site would usually require a plant to be shut down for a significant amount of time. Unplanned shutdowns such as this would mean loss of production, which also means loss of money. No profit making company would want to be caught in such a situation.

5) FINES FORM ENFORCEMENT BODIES

Any accident or environmental discharge, *i.e.* acts that go against the legal requirements of HSE in the country would definitely result in the company paying fines for the offences committed. This is would indeed be a direct loss of money for the company.

6) CLIENT REQUIREMENTS

Currently, most customers require that their suppliers have some sort certification in terms of HSE, *e.g.* OSHA 18001, ISO 14000 or MS 1722. This requires the industries to meet such standards in order to fulfil the requirements of their customers. Failure to do so would result in loss of customers which then translates to loss of income.

7) TARNISHED REPUTATION

If a company frequently commits offences against legal HSE requirements, inevitably its reputation would be tarnished. In the current global market, most people would not want to engage in business with a company that has a tarnished reputation. For example, China is experiencing a slowdown in its export market for food related stuff due to poor hygiene standards in its food industry. Such a scenario would be disastrous to any company who would want to be profitable in the long run.

In order to enhance HSE aspects in a company, sufficient attention should be given to HSE issues. Direct and indirect losses, such as for the scenarios mentioned above should be avoided at all costs, for companies whose long term goal is to be profitable. Hence, it is proposed that the following measures be implemented by top management to enhance HSE in the workplace.

1) SET UP HSE POLICY

The abovementioned policy governs all aspects of HSE in the workplace. Besides being a legal requirement of the Occupational Safety and Health Act 1994, it also shows the

commitment of management to issues related to HSE. All goals of such a policy should be specific, measurable, achievable, recordable and time based. The employees should co-operate with the management in order to ensure that the policy remains relevant.

2) PROVIDE LEADERSHIP BY EXAMPLE

HSE requirements should not be just lip service with fancy slogans and signages, but the management needs to ensure that everything spelt out in the HSE legal requirements and company policies be followed to the letter. Only then would the employees be able to follow the HSE requirements, thus ensuring that the workplace is safe, healthy and does not pollute the environment.

3) PARTICIPATE IN DOSH'S MENTOR-MENTEE PROGRAM

DOSH has embarked on a mentor-mentee program for small and medium industries (SMI) where each SMI is paired with a large company, to provide support on HSE related matters. Such a program does benefit SMI's which generally do not have the expertise in such matters. It is hoped that more SMI's participate in this program in the future.

It can now be summarised that a company cannot neglect HSE, since it is a profit factor and productivity booster. HSE is not liability to the company, but when successfully implemented at the workplace, will ensure that the company is operating cost effectively. ■

Workshop on “Understanding Geo-Natural Disasters Arising from Earthquake, Tsunami and Volcanic Activities in Southeast Asia and Seismic Design using Eurocode 8”

by **Engr. Dr Ooi Teik Aun**, *F.I.E.M., P. Eng*

THE 2-day workshop was held on 6 and 7 December 2007 at the Singgahsana Hotel, Petaling Jaya. The workshop was jointly organised by the Association Of Southeast Asian Geotechnical Societies In Southeast Asia (AGSSEA) and IEM Training Centre Sdn. Bhd., supported by IEM Geotechnical Engineering Technical Division and The Institution of Civil Engineers, UK. Fifty one participants, including one from the Vietnam International Society for Soil Mechanics and Geotechnical Engineering (VSSMGE), attended the workshop.

The workshop covered the following topics in two sessions:

- i) Fundamentals of building response to earthquake ground motion.
- ii) Methods to assess seismic hazard.
- iii) Methods to allow for site specific soil conditions.
- iv) Implications to the design of buildings.
- v) Standard approaches used in seismic codes of practice illustrated by the United States code IBC2006 and Eurocode 8.
- vi) The workshop using the PETRONAS Twin Towers as an illustration of the response of buildings to seismic ground motion.

SESSION 1: UNDERSTANDING GEO-NATURAL DISASTERS ARISING FROM EARTHQUAKE, TSUNAMI AND VOLCANIC ACTIVITIES IN SOUTHEAST ASIA

This session was conducted by Professor Tjia Hong Djin, who

was the Honorary Senior Fellow of LESTARI (Institute for the Environment and Development), Universiti Kebangsaan Malaysia.

This session updated the participants on the geological factors that cause increasing natural hazards and disasters in Southeast Asia. Topics covered included regional plate tectonic framework (including relative crustal stability), recognising active geological structures, earthquake hazards, tsunamis and volcanic hazards.

Tutorials were held on analysing fractures (including faults) in terms of density (which correlates with rock type), pattern and orientation (which may indicate tensional, compressional and shear fracture types, and thus provide further information on their respective hazardous potential) and characterising features associated with faults (potential earthquake location) and volcanoes on topographic maps.

SESSION 2: SEISMIC DESIGN USING EUROCODE 8

This session was conducted by Dr Jack Pappin, the Director of Ove Arup & Partners, Hong Kong Ltd.

As a result of increasing seismic activities in and around the neighbourhood, Malaysia is experiencing more tremors and there is a need to design for seismic loading. This session shed some light on how to deal with such situations with the use of Eurocode 8. Practical examples using Petronas Twin Towers were given. ■

Talk on “Clean Development Mechanism (CDM)”

by **Engr. Juares Rizal bin Abd Hamid**, *MIEM, P. Eng*

THE talk, organised by the Chemical Engineering Technical Division, was attended by 74 participants. It discussed the potential benefit for greenhouse gas reduction initiatives in developing countries. In particular, it highlighted the Clean Development Mechanism (CDM) as a means towards achieving the greenhouse gas (GHG) reduction in project activities.

The speaker was Ir. Thayanathan Balakrishnan who had over ten years of experience in process engineering, process plant management and initiation of a CDM project for nitrous oxide abatement in the industrial production of nitric acid.

The talk started with a presentation on the background and the chronological development of the CDM provision. The speaker touched on the United Nations Framework Convention on Climate Change (UNFCCC) of the Rio Earth Summit in 1992 – which had the objective of stabilizing concentrations of greenhouse gases in the atmosphere at such levels that would minimise anthropogenic interference with the climate system.

Following the Rio summit, on 11 December 1997 the Kyoto Protocol was adopted, where legally binding targets for such stabilisation were laid down for the industrialised countries – referred to as the Annex 1 countries. The Kyoto Protocol entered into force on 16 February 2005; the CDM is one of the means adopted by the Annex 1 countries to achieve their targets.

The talk further discussed the fundamentals of CDM project development and steps that potential project developers need to take to earn Certified Emission Reduction (CER) credits. As CER could be traded, they could derive income from the initiatives taken. The Kyoto Protocol also calls for the voluntary participation of non-Annex 1 developing countries in the initiative. To this end, the talk presented the CDM project potential in Malaysia, briefly citing a number of case studies relating to it. ■

Bulletin Editor's note: Further authoritative details can be found on the official website of CDM: <http://cdm.unfccc.int/about/index.html>.

Talk on “Design and Construction of the First Bored Tunnel under the Hong Kong Harbour”

by **Engr. Dr Ooi Teik Aun**, *FIEM, P. Eng*

THE talk on the design and construction of the first bored tunnel under the Hong Kong harbour was delivered by Engr. Leslie J Pakianathan of Mott MacDonald Consulting Engineers. It was held on 6 July 2007 at the IEM Lecture Hall, and attended by 130 participants.

Tunnelling projects are usually challenging in terms of construction difficulties. This is particularly so for an undersea tunnel such as that of the bored tunnel under the Hong Kong Harbour with a tunnel length of 5.3 km using drill and blast techniques and a hard rock tunnel-boring machine (TBM). Prior to the construction of this tunnel there are three other immersed tube tunnels under the Hong Kong Harbour. Thus, this is the first bored tunnel to be constructed between the island and the mainland.

The tunnel route passes through two fault zones and a

contact zone of Granite and Volcanic Tuff. Heavy inflows of water were encountered and dealt with by pre and post grouting techniques. Substantial ground settlement occurred in one area where the ground water drawdown caused under drainage of the highly compressible marine clay layer.

Another notable challenge was the excavation under the Eastern Harbour Crossing; which is an undersea immersed tube tunnel, housing 3 lane dual carriageway roads and twin track rail, with no tolerance for settlement. The presentation addressed the difficulties faced and measures undertaken to resolve them successfully. The importance of safety during tunnel construction was highlighted. This is particularly critical in the case of tunnel fire and explosion where lives were lost due to human errors. ■



Closing Ceremony of IEM Engineering Week 2009 (IEM-EW09) on 25 April 2009

by **Ir. Dr Marlinda binti Abdul Malek**, MIEM, P. Eng.

In 2009, The Institution of Engineers, Malaysia (IEM) celebrates its 50th Anniversary. In conjunction with the celebration, the 13th annual IEM Engineering Week (EW09) was organised in a bigger scale from 20 to 25 April 2009, with a theme 'Engineering: Prime Movers of Nation Building'.

With help from IEM branches all over Malaysia, a one-week programme was held to promote engineering as a profession. The programme covered many aspects such as the challenges, professionalism, contribution to nation-building, working environment and options available to engineers. Target groups range from high school students to practising engineers, with the following key messages:

- High school students: promoting and making them aware of the engineering profession
- University students: exposing them to job expectation and career challenges
- IEM members: encouraging further development in engineering knowledge
- Practicing engineers: paving the path to become Professional Engineers

The closing ceremony of IEM-EW09 on 25 April 2009 was held at Wisma IEM. It began with a career exhibition, IEM membership drive, and a career guidance talk by Jobstreet. It was later graced by the Transport Minister, Y.B. Datuk Seri Ong Tee Keat, who was trained as an engineer himself.

In his welcoming speech, Engr. Vincent Chen Kim Kieong, the Deputy President of IEM, highlighted that beyond encouraging more students and graduates to join the engineering profession, IEM is also committed to assist engineers to cope with the changes in technology through continuous professional development (CPD). This is because engineers must keep pace with the global trend towards an increasingly knowledge-based economy. Well-trained, creative and "thinking" workforce that embraces lifelong-learning will play crucial roles in determining economic growth and prosperity.

In his speech, the Minister stated that in the current globalisation and increased competition among nations, innovation is the key to the future well-being of our society. This requires world class human capital. The era of "Government knows best" is over. This is where IEM could play a critical role in shaping engineers of the future. Closer collaboration and dialogues are needed between professional bodies like IEM, industry, academia, and the government. Together, he believed that we will find the right balance to cater for our needs for today and for the future.



Closing ceremony of IEM EW09



Award presentation to outstanding candidates of the 2008 SPM/STPM examinations



The Minister visiting the IEM career exhibition booth

The Minister also had the honour to present prizes by IEM to members' children who did very well in their SPM and STPM examinations (45 SPM and 6 STPM). After declaring the IEM Engineering Week 2009 officially closed, the Minister toured the exhibition booths, gave a press conference and joined for lunch. ■

Process Description on Cogeneration Plant

by **Engr. Assoc. Prof. Dr Law Chung Lim**, *MIEM, P. Eng.*

RECENTLY, the Chemical Engineering Technical Division organised a technical visit to the Ban Heng Bee Rice Mill. The mill installed a biomass cogeneration plant that utilises biomass to generate power and heat. The cogeneration plant at Ban Heng Bee Rice Mill consists of the following major systems:

- Rice husk storage system (bunker)
- Rice husk feeding system
- Rice husk combustion system (furnace)
- Steam generation system (boiler)
- Fly-ash removal system (multi-cyclone and electrostatic precipitator)
- Bottom ash discharge system (screw conveyor)
- Flue gas discharge system (flue gas condenser, flue gas fan and stack)

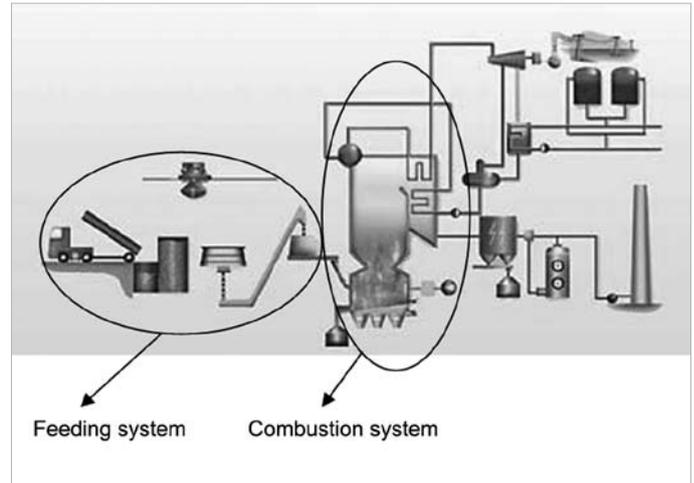


Figure 1: Cogeneration system (Modified from source: COGEN, 2003)

Figure 1 shows the schematic diagram of the Cogen system.

Rice husk, obtained from the milling of paddy, is used as a source of biomass for this operation. It is stored in a bunker or open space. Using belt feeders, conveyors and tube feeders, the feeding system charged the rice husk to the combustion system. Figure 2 shows the schematic diagram of the combustion system.

On combustion, part of the rice husk is turned into ash. Fine ash, also known as fly ash, is light and is carried over by the flue gas stream. The residue bottom ash usually remains in the furnace; but by using a grate furnace, a moving or reciprocating grate allows the bottom ash to move mechanically from the furnace to the bottom ash removal system. The bottom ash can be used as fertiliser.

Hot flue gas from the furnace is used to first generate steam in a boiler, with a capacity of 6.5 tonnes per hour at 30 barg. The steam is then used to generate electricity in a 450kW turbine to power the building and office, as well as to heat up air in a heat exchanger to approximately 45°C for use in the rough rice dryer. The inclined bed dryer is a packed bed dryer which inclines at about 35°, the angle of slide of rough rice on a steel plate surface.

Downstream of the boiler, fly ash in the flue gas is

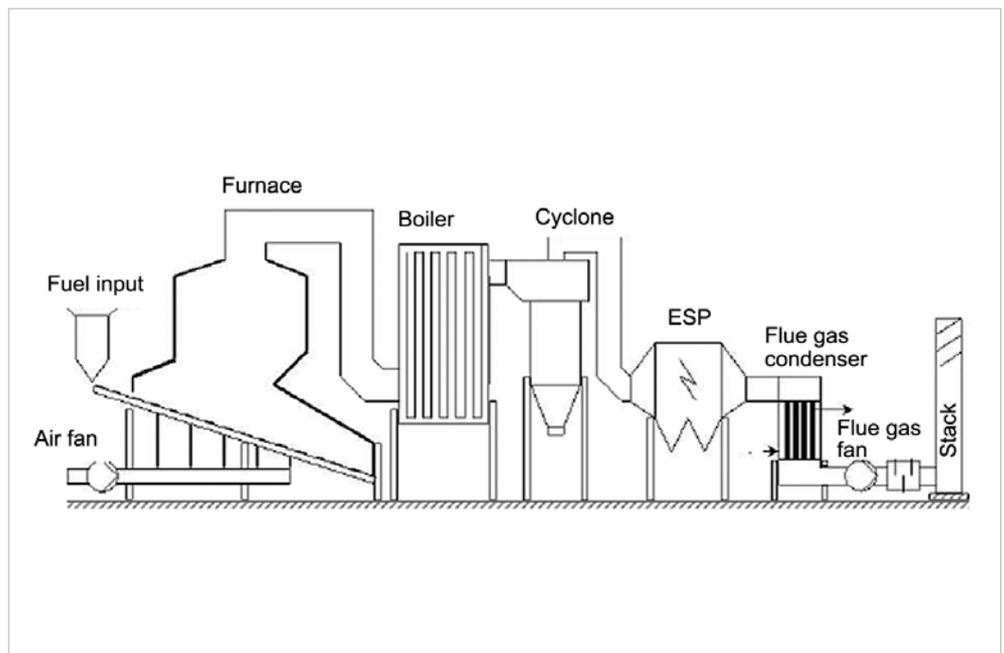


Figure 2: Combustion and boiler systems (Source: COGEN, 2003)

separated from the gas stream in a cyclone while ultra-fine fly ash is captured in an electrostatic precipitator. Flue gas is then discharged into the atmosphere through the flue gas stack by a fan.

Closing remarks

Biomass cogeneration technology is an alternative to the rice milling industry for the disposal of rice husk. This technology is especially useful for large rice mills where the mills are unlikely to face a shortage of rice husk. ■

Report on the 12th APCChE Congress

by **Mr. Saw Horng Yuan**

It has been an honour and great privilege for me to be fully sponsored by the Chemical Engineering Technical Division (CETD) of the Institution of Engineers, Malaysia (IEM) to attend the 12th Asia Pacific Confederation on Chemical Engineering (12th APCChE) Congress in Dalian, China, from 4 to 6 August, 2008.

It all started when I took part in the Research Paper Competition 2008 organised by the CETD in December 2007. The title of my research paper was 'Investigations on the hydration properties of palm kernel cake used as a substrate for solid state fermentation', which reported part of my Master's research in chemical engineering.

The paper reported a study on the swelling capacity (SC) and water retention capacity (WRC) for palm kernel cake (PKC) of different sizes (0.106 mm, 0.800mm and 4.825mm) at a constant temperature (30°C). When hydrated, the water uptake in PKC was found to be possibly through the capillary effect in the PKC fibre pores, and the SC and WRC were affected by physical properties such as fibre structure, porosity and density.

The effects of particle size, moisture content and temperature on the specific volume (V_s) of PKC were also studied. V_s was found to increase linearly with increasing moisture content for all particle sizes, and the maximum V_s was achieved by different particle sizes at each moisture content, probably caused by inconsistencies in the unexplored physical properties such as fibre microstructure, porosity, available surface area and the existence of residual oil in PKC fibre.

As temperature had minimal influence on V_s , it was considered as a function of moisture content only. Empirical mathematical expressions were developed to represent the linear relationship between V_s and the moisture content for all particle sizes, and there was good correlation between the measured and estimated values. This study provided important information for the development of solid state fermentation bioreactors with PKC as the main substrate.

By February 2008, my paper was shortlisted for oral presentation together with two other contestants from Universiti Sains Malaysia. After the 15-minute presentation that included a questions and answers session before a panel of judges from the CETD, I was declared the winner during the lunch session between the judges and the contestants.

My journey to Dalian started on 3 August, as I flew from Kuala Lumpur to Hong Kong, and from there to Dalian. The 12th APCChE Congress was held at the Dalian World Expo Center in Xinghai Square, and jointly organised by the Chemical Industry and Engineering Society of China Contractors, Dalian University of Technology and East China University of Science and Technology. There were more than 1000 participants.

The congress was divided into a few themes, namely, Clean Energy Technology, Environment and Green Processing, Materials Science and Engineering, Biotechnology, New Frontiers in Chemical Engineering, and Education for Chemical Engineers. Among the invited plenary speakers were Professor David Wood, Professor Max Lu, Professor Kazuichi Hayakawa and Professor Richard C. Darton, lecturing on issues that involved global challenges for chemical engineering education and the impact from the 'New World', to the flow of resources and waste in the world.

I presented my research work under the Biotechnology theme on 5 August. There were a total of six presentations in this session, covering topics such as enzyme engineering for D-p-hydroxyphenylglycine preparation, a multi-scale model for CO₂ sequestration enhanced coal-bed methane recovery, molecular dynamics and experimental observations on intensified disulfide bond shuffling for protein refolding in vitro, and carbon-nitrogen-phosphorus removal and biofilm growth characteristics in an integrated wastewater treatment system involving a rotating biological contactor.

The participants and audience were mainly from China, besides a few from the Philippines and Malaysia. I was the last presenter in the session, and there were no questions directed at my 15-minute presentation. The only comment that I received from one of the participants was that the presentation was done in a clear manner with good and appropriate usage of English.

Through this Congress, I managed to update myself with the work done by researchers throughout the world. I am also glad to be able to present and share my own research work to an international audience. I got to meet people from different nationalities and make new friends. And of course, I got the opportunity to visit Dalian, and spent some personal time in Hong Kong on my own expenses.

I would like to take this opportunity to thank the CETD for their support in promoting research interest among postgraduates in Malaysia, and for bringing international exposure to us through the research paper competition and providing the opportunity to attend international meetings such as the 12th APCChE Congress. Special thanks go to Engr. Associate Professor Dr Dominic Foo Chwan Yee, Miss Norasma and other staff members who helped in the preparation to Dalian.

I would also like to acknowledge Universiti Malaysia Sabah for providing the research opportunity and financial support to me, and the continuous guidance and support from my supervisors Mr. Jidon Janaun, Dr Sivakumar Kumaresan and Associate Professor Dr Chu Chi Ming, my family members and close friends. Last but not least, I thank God, for He is the source of everything. ■