To All Members, Date: 8 March 2010

CANDIDATES APPROVED TO SIT FOR PROFESSIONAL INTERVIEW FOR YEAR 2010

In accordance with Bylaws 3.9, the undermentioned names are published as having applied for membership of the Institution, subject to passing the year 2010 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 bearing the name and the membership number of the complainant should be lodged ***a month*** from the date of publication.

Thank you.

Ir. Assoc. Prof. Dr Jeffrey Chiang Choong Luin
Honorary Secretary,
The Institution of Engineers, Malaysia

NEW APPLICANTS

Name	Qualifications
CHEMICAL ENGINEERING	
NORHELME BIN OMAR	BE HONS (UTM) (CHEMICAL, 98)
CIVIL ENGINEERING	
ABDUL JAMAL BIN TALIB	BSc (SOUTHERN ILLINOIS UNI) (CIVIL, 86)
GHAZALI BIN DAUD	BSc (CALIFORNIA STATE UNI, LONG BEACH) (CIVIL, 85)
HABIBAH BINTI BABA	ADV DIP (UiTM) (CIVIL, 87)
MAZNAH BINTI MAKHTAR	BE HONS (USM) (CIVIL, 04)
MOHD HISHAM BIN SAPUAN	BE HONS (UTM) (CIVIL, 00)

NEW APPLICANTS

Name	Qualifications
MOHD RASHID BIN YA'ACOB	BE HONS (UiTM) (CIVIL, 03)
WONG TOH KOO	BE (NEW SOUTH WALES) (CIVIL, 91)
ELECTRONIC ENGINEERING	
AMIR RUDIN BIN MAT DIN	BE HONS (UTM) (ELECT, 00)
MECHANICAL ENGINEERING	
AHMAD AFZAINIZAM BIN MOKHTAR	BE HONS (UNITEN) (MECH, 00)
MOHD ROSLAN BIN DAUT	BSc (PURDUE UNI) (MECH, 91)

TRANSFER APPLICANTS

M'ship No	Name	Qualifications
AGRICULTURAL ENGINEERING		
24903	LIM SWEE SANG	BE HONS (UPM) (BIOLOGY & AGRICULTURAL, 99)
CHEMICAL ENGINEERING		
25761	LAU BEN FANG, RAYMOND	BE HONS (UTM) (CHEM, 2001)
CIVIL ENGINEERING		
35618	ADHAM BIN AHMAD	BE HONS (UTM) (CIVIL, 03)
25072	ANILARASU A/L AMARANAZAN	BE HONS (UTM) (CIVIL, 05)
39178	CHOO INN AIK	BE HONS (UKM) (CIVIL, 02)
25602	FARAH HAZNEE BINTI AHMAD	BE HONS (UNITEN) (CIVIL, 03)
21226	IDAHAT BIN MAHAT	BE HONS (MALAYA) (CIVIL, 02)
18395	KRISHNAKUMAR A/L PARAMANANDAN	BE HONS (MALAYA) (CIVIL, 02)
29154	MUHD ABDAI RATHOMY BIN ROMELI	BE HONS (UTM) (CIVIL, 04)
25057	NG BENG HOOI	BE HONS (UTM) (CIVIL, 05)
33803	POH KONG CHIN	BE HONS (USM) (CIVIL, 03)
29198	ROHANI BINTI HAROON	BE HONS (EAST LONDON) (CIVIL, 97)
25268	TAN HUN KIN	BE HONS (USM) (CIVIL, 02)

TRANSFER APPLICANTS

M'ship No	Name	Qualifications
23921	TOH DING KIONG	BE (MONASH) (CIVIL, 01)
17034	YET CHEE HONG	BE HONS (USM) (CIVIL, 98)
ELECTRICAL ENGINEERING		
36947	AMMAR BIN ALAMSHAH	BE HONS (UTEM) (INDUSTRIAL POWER, 06)
26229	CHUAH RHUN RIANG	BE HONS (UTM) (ELECT, 06)
29643	HAFIZI BIN ZAKARIA	BE HONS (UiTM) (ELECT, 98)
20925	JUNAIDI BIN JAMALUDDIN	BE HONS (STRATHCLYDE, GLASGOW) (ELECT, 96)
MECHANICAL ENGINEERING		
32619	LAU SUN WAH	BE HONS (USM) (MECH, 04)
20719	SU LAY CHIEW	BE HOSN (STAFFORDSHIRE) (MECH, 94)
16544	WONG MUN CHONG	BE (THE NATIONAL UNI OF S'PORE) (MECH, 91)
20101	WONG WING HENG	PART 2 (EC) (MECH, 99)
20849	AHMAD MASYHUR BIN JAHAYA	BE HONS (STRATHCLYDE) (ELECT & MECH, 97)
MECHATRONICS ENGINEERING		
38872	MAZLAN BIN AHMAD MANSOR	BE (TOHOKU) (MECHATRONICS, 1998)

ANNOUNCEMENT

The Institution of Engineers, Malaysia (IEM) is pleased to announce that the IEM ENGINEERING WEEK 2010 (EW2010) will commence from 19-24 April 2010.

This will be the fourteenth (14th) consecutive year that IEM is organising the IEM Engineering Week. The theme for this year is '***Engineering Mobility and Globalisation for a Sustainable Future***'.

Kindly refer to the circular in the Bulletin and announcement in our website for details of the activities or contact the IEM Secretariat at 03-7968 4001 for further information.

Thank you.

The Standing Committee on Welfare and Service Matters
Session 2009/2010

LATEST UPDATE!

CONTRIBUTION TO WISMA IEM BUILDING FUND

RM1,292,377.20 from IEM Members
RM340,502.00 from Private Organisations

TOTAL

RM1,632,879.20

(ANOTHER RM10,517,120.80 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 WISMA IEM BUILDING FUND

25th Announcement

The Institution would like to thank all contributors for donating towards the Wisma IEM Building Fund. Members and readers who wish to donate can do so by downloading the form from the 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 31 January 2010 are shown as below.

NO.	MEMBERSHIP NO.	DETAILS
1	M03166	AW KHA CHING
2	M04071	CHONG KWET HIN
3	M23927	CHOO CHEE MING
4	M03650	CHUA LEE BOON
5	M00945	GOH GIN HAN
6	M01639	HUSSEIN BIN ABDUL RAZAK
7	M05540	KWANG EAU QUAN
8	M17099	LEE KIEW TENG
9	G30625	LIAN BOON HAN
10	M19353	LIM BOON TIONG
11	G34041	MOHAMED ZAIMIR BIN MOHAMED SUFFIAN
12	G13581	MOHD NASIR BIN HUSSIN
13	M38710	MUSTAFFA KAMAL BIN ARIFFIN
14	M18178	NARAYANAN A/L RAMASAMY
15	M 24199	NG EAK TONG
16	M 11772	NITCHIANANTHAN A/L BALASUBRAMANIAM
17	M 09429	POOBALAN S/O MAHALINGAM
18	M 14630	RAMLY BIN YAHAYA
19	M 38696	REKHA PERUMALOO
20	M 36853	ROSLI BIN ABU BAKAR
21	G 16397	TAN BOON CHEW
22	M 12618	TEOH SENG GIAP
23	G 07934	THOMAS SAMUEL S/O C.T. SAMUEL
24	M 09670	TOK CHIN THIAM
25	M 09380	WAN SHUHAIMI BIN WAN DAUD
26	M 09124	WONG SIONG SANG
27	S 28121	YEO CHOON SENG

IEM DIARY OF EVENTS

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

Mechanical Engineering Technical Division
8 MAY 2010
Technical Visit to George Kent Technology Centre
Venue: Puchong, Selangor
Time: 9.00 a.m. to 1.00 p.m.

11 MAY 2010
Talk on "The Realities and Myths of Total Quality Management in Construction Industry"
Speaker: Ir. Dr Chong Chien Fatt
Venue: C&S Lecture Room, Wisma IEM
Time: 5.30 p.m. to 7.30 p.m.

Electrical Engineering Technical Division
8 MAY 2010
Talk on "Energy and Climate Change"
Speaker: Ir. Francis Xavier Jacob
Venue: Tan Sri Prof. Chin Fung Kee Auditorium, Wisma IEM, Petaling Jaya
Time: 9.30 a.m. to 11.30 a.m.

8 MAY 2010
25th EETD AGM
Venue: Tan Sri Prof. Chin Fung Kee Auditorium, Wisma IEM, Petaling Jaya
Time: 11.30 a.m. to 12.30 p.m.

25 MAY 2010
One Day Course on "Electrical Energy Efficiency Regulations and Applications"
Venue: TUS Room, Wisma IEM, Petaling Jaya
Time: 8.30 a.m. to 5.00 p.m.

Tunnelling and Underground Space Technical Division
15 MAY 2010
10th Annual General Meeting
Venue: TUS Room, Wisma IEM, Petaling Jaya
Time: 11.00 a.m. to 1.00 p.m.

1-3 MARCH 2011
International Conference and Exhibition on Tunnelling and Trenchless Technology - "Tunnelling in South East Asia-Future Challenges and Management of Safety and Risks in Tunelling"
Venue: Sheraton Subang Hotel, Subang Jaya
Time: 9.00 a.m. to 5.30 p.m.

Building Services Technical Division
15 MAY 2010
Technical Visit to SKB Shutters Corporation Berhad
Venue: Kota Damansara, Selangor
Time: 9.00 a.m. to 5.00 p.m.

Civil and Structural Engineering Technical Division
21 MAY 2010
One-Day Seminar on Adopting Eurocodes EC0. EC1 and EC2 in Malaysia
Venue: Dynasty Hotel, Miri, Sarawak
Time: 9.00 a.m. to 5.00 p.m.

Engineering Education Technical Division
24 MAY 2010
21st Century Engineering Education: Issues and Its Future
Speaker: Engr. B Balmuralithara
Venue: C&S Lecture Room, Wisma IEM
Time: 9.00 a.m. to 5.00 p.m.

MAJOR EVENTS

30 NOVEMBER - 2 DECEMBER 2010
28th CONFERENCE OF ASEAN FEDERATION OF ENGINEERING ORGANISATIONS
Venue: Hotel Melia, Hanoi, Vietnam
Time: 9.00 a.m to 5.30 p.m

CONFERENCES & SEMINARS

MALAYSIA

24-25 MAY 2010
FLOOD FORECASTING AND WARNING SYSTEM
Venue: COIT, UNITEN
Tel: +603 8921 2020 ext 6205
(Assoc. Prof. Ir. Dr Lariyah Mohd. Sidek)
(Invitation to register)

7-10 JUNE 2010
THE 3RD REGIONAL CONFERENCE ON ENGINEERING EDUCATION AND RESEARCH IN HIGHER EDUCATION (RCEERHED2010)
Venue: Riverside Majestic Hotel, Kuching, Sarawak
Tel: +607 521 8170/8159
Website: http://seminar.spaceutm.edu.my/rceerhed2010
(Invitation to register)

30 JUNE-1 JULY 2010
SHORT COURSE ON INTRODUCTION TO WATER SENSITIVE URBAN DESIGN (WSUD) AND CONCEPTUAL DESIGN
Venue: Residence Hotel, UNITEN
Tel: +603 8921 2020 ext 6205
(Assoc. Prof. Ir. Dr Lariyah Mohd. Sidek)
(Invitation to register)

6-7 JULY 2010
INTERNATIONAL CONFERENCE ON ADVANCE IN RENEWABLE ENERGY TECHNOLOGIES (ICARET 2010)
Venue: Putrajaya, Malaysia
Tel: +603 8921 2020
Fax: +603 8921 2116
Website: http://www.uniten.edu.my/go/icaret2010
(Invitation to register)

26-29 JULY 2010
2nd W2W AND 6th i-CIPEC
Venue: PWTC, KL
Tel: +603 6140 6666
Fax: +603 6140 8833
(Invitation to register)

5-6 OCTOBER 2010
INTERNATIONAL UNIVERSITY SOCIAL RESPONSIBILITY CONFERENCE AND EXHIBITION (IUSRCE2010)
Venue: Putra World Trade Centre (PWTC, Kuala Lumpur)
Tel: +607 521 8170/8159
Email: rceerhed@utm.edu.my (Ms. Raihana) / iusrce2010@utm.edu.my (Ms. Shafinaz)
Website: http://seminar.spaceutm.edu.my/iusrce2010
(Invitation to register)

IEM Job Vacancy Advertisement

Greetings from The Institution of Engineers, Malaysia.

It gives us great pleasure to notify you of a new value added service that IEM will be providing to our members as well as companies involved with the supply of products and services related to the engineering profession. As you may be aware, the new IEM building, Wisma IEM, is now the venue for all IEM activities such as talks, seminars, courses, workshops, *etc*.

With a nominal fee, we are offering you the opportunity to introduce your products and services to fellow engineers by putting up advertisements at our advertisement boards/panels or electronic board. Check out our offer in the IEM website, www.iem.org.my.

Feel free to contact our IEM Secretariat staff at 03-79684021 (Tarmizi) for further information.

Looking for Engineers?

Advertise your vacancies on one of the most prestigious engineering website in Malaysia. Hire qualified candidates!

Cheaper than using traditional search firms or newsprint!

Over 20,000 Engineers exposed to your job posting

Approximately 300 website hits per day

Job postings appear for 30 days in website compared to 1 day for newsprint

Only minimum of RM50 per job advertised for IEM members and RM100 for non-members

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. Mizi, the IEM Secretariat at 03–7968 4001/2 for more details.

Job seekers can search for their desired employment in the IEM Website under the '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

Recent Activities of the IEM Southern Branch Young Engineers Section

by **Engr. Ng Pui Ling**
Chairperson, Young Engineers Section, IEM Southern Branch

THE IEM Southern Branch Young Engineers Section (YES) started off as a student chapter at Universiti Teknologi Malaysia (UTM). The YES of IEM Southern Branch was formally established in 2006. Since then, it has achieved several milestones.

Currently, the committee of YES IEM Southern Branch consists of many active graduate engineers and engineering students from the two student chapters based in Universiti Teknologi Malaysia (UTM), Skudai, and Universiti Tun Hussein Onn (UTHM), Batu Pahat.

Despite the hustle and bustle of life as young engineers and students, the committee members of YES managed to support the activities of the branch as well as those conducted by other organisations.

The monthly meetings amongst the committee members not only transform planned activities into reality, but they also provide a platform to enhance the rapport among fellow engineers and for the exchange of ideas in both the professional and personal realm. YES members, who have started off as strangers, have moved on to form a cohesive team and became friends.

At the barbeque with the Indonesian delegates during YEAFEO 2009 in Singapore

In 2008, a social gathering with the Johor Young Lawyer Council (JYLC) was held, marking the beginning of the relationship of YES with other professional bodies in the southern region of Malaysia.

In 2009, a charity night themed "For You" was jointly organised by these two groups of young budding professionals. The charity night successfully raised RM 15,000 in aid of the Pertubuhan Kebajikan Insan Istimewa Johor Bahru (PKIIJB).

In December 2009, three representatives from the YES Southern Branch participated in the Conference of Young ASEAN Federation of Engineering Organizations (YEAFEO).

On the eve of the conference, the committee members of the YES Southern Branch hosted a barbeque session in Singapore for delegates of other YES branches as well as the delegates from Singapore, Thailand, Indonesia, Myanmar, Hong Kong and Japan.

Photo 2: Bowling session amongst YES members

Joining children from Pertubuhan Kebajikan Insan Istimewa Johor Bahru for a stage performance during the "For You" Charity Night 2009

At Johor Bahru's Cheshire Home to help the needy, March 2010

Early this year, the YES Southern Branch visited the Petronas petrochemical plants in Kerteh, Terengganu. The visit was conducted in collaboration with the YES Kerteh Branch. A total of 30 graduates and students participated in the technical visit.

The most recent activity of YES was the charity work to help the needy and disabled persons at the Johor Cheshire Home. The young engineers and students, together with the committee and other members, conducted a 'gotong-royong' exercise to clean and spruce up the compound area of the home.

Teamwork is the essence of success. More upcoming YES activities can be expected for the improvement of young engineers in the near future. ■

Talk on "A Case Study: Design and Construction of Foundation and Braced Excavation at a Reclaimed Site at Waterfront"

by ***Ir. Liew Shaw Shong***

Deputy Chairman, Geotechnical Engineering Technical Division

DR Eric Li S.F., from the Hong Kong Institution of Engineers, presented an evening talk on "A Case Study: Design and Construction of Foundation and Braced Excavation at a Reclaimed Site at Waterfront" at Wisma IEM on 17 April 2009. The talk, chaired by the author, was attended by 45 participants.

Dr Li first presented the project background of the case study in which a solution was proposed to mitigate the flooding problem at the low lying Sheung Wan area located at the western side of Hong Kong Island. The major causes of the flooding were primarily due to storm surge and the inability of timely discharge of the excessive runoff from the adjacent hill site to the seafront during high tide. Such a hydraulic condition causes a backflow of sea water and the overflow of drain water from manholes and gully gratings at the downstream drainage.

The solution involves constructing a large capacity surface intercepting drainage system to collect the runoff and channel it to a temporary storage for direct discharge to the seafront by pumping. The main element of the talk focused on the design and construction of the underground storage tank and pumping station (43m by 56m with depth ranging from 10m to 11m), which is located right behind the seafront. The project is known as Sheung Wan Stormwater Pumping Station (SWSPS).

GROUND CONDITIONS

Two series of ground investigations consisting of 32 boreholes were conducted in 2002 and 2006. In the desk study of the construction as-built details of the seawall, it was known that the dredging of the original soft marine clay was carried out and replaced with sand fill overlaid by rubble stone rock fill as the foundation for the masonry seawall. From the ground investigations, the general subsoil stratification underlying the site platform of +4.0m PD is approximately 18m thick fill overlying 5m to 13m soft to firm marine clays and a thin layer of alluvium before interfacing with the moderately to slightly decomposed medium to coarse grained granite.

DESIGN CONSTRAINTS

During the design stage of the deep excavation, the following design considerations were noted:

- Sensitive existing structures surrounding the proposed site: Sheung Wan Saltwater Pumping Station on raft and has a deep open culvert (found at -3.8m PD) on the side abutting the proposed SWSPS (west), seawall (north) and Chung Kong Road (south)
- High water table (mostly active sea water level ranging from +0.5m PD to +2.5m PD)
- Presence of a thick layer of heterogeneous fill and soft marine deposits

EXCAVATION AND LATERAL SUPPORT SYSTEM

Design objectives were established to:

- facilitate a stable excavation with minimum obstruction
- provide an efficient groundwater inflow cut-off
- contain ground movement to acceptable limits

The final shoring design consists of 24m (north and west sides) and 18m (south and east sides) long FSP IV sheet pile wall around the excavation with three levels of internal strutting system (at +2.5mPD, -1.0mPD and -4.0mPD). Sheet piles were installed by push-in method using Giken Super Crusher System, which was equipped with auger for overcoming obstruction as anticipated on the north side. There, the sand fill beneath the sheet pile was made less permeable by toe penetration grout curtain (using Tube-A-Manchette method) to a depth of minimum 1m into the completely decomposed granite (CDG).

On the west side, ground improvement in the form of penetration grouting of a 6m zone behind the sheet pile wall and jet grouting of a 4m wide zone below the toe of the sheet piles were implemented. On the other two sides, despite the walls being stable, it was estimated that ground movement behind the walls would be excessive when groundwater level was lowered below the excavation level. Hence, grouting of a 2m wide zone down to the CDG stratum was implemented to serve as cut-off to groundwater flow.

The jet grout parameters adopted: target grout diameter of 1500m to 2000mm, jetting pressure of 300-400bars, withdraw rate of 13-15min/m, rotation rate of 6-7 rev/min, target strength of 600kPa (UCS) and stiffness of 150MPa (elastic modulus). The UCS strength from the core sample of jet grout has achieved typically 7-10MPa with occasional test results of more than 40MPa. Penetration grouting using bentonite-cement grout has also managed to achieve the target stiffness of 50MPa as verified by the pressuremeter test and core samples.

FOUNDATION SYSTEM

The original foundation design consists of 60 numbers of 1.2m to 1.5m diameter bored piles. However, the contractor subsequently proposed an alternative design by replacing the large diameter bored piles with rock socketed H-piles (305×305×223kg/m Grade 55C with a carrying capacity of 6,900kN) formed by grouting the 550mm drillhole into bedrock. The H-piles were further reinforced by four numbers of T50 bars.

ANALYSIS AND PREDICTION

A finite element package, Plaxis, was used to analyse the soil-structure response of the excavation. The analysed tilting of the seawall north of the excavation is approximately 1:650, which is still well within the tolerance threshold of the seawall structure. The predicted wall deflection and ground movement responses from the FEM analyses are summarised in Table 1.

Table 1 : Summary of prediction of wall deflection and ground settlement

Boundary Side	Wall Deflection	Ground Settlement	Ground Distortion
East	115mm	82mm	-
West	60mm	18mm	-
North	102mm	75mm	1:160
South	88mm	53mm	1:800

Monitoring results indicated that significant ground settlement occurred during initial foundation pile installation, particularly near the seawall. The settlement is considered mainly attributed to a combination of over-excavation of sandy soils by the open hole drilling with air flushing method, and the compaction effect of the fill material and the rock fill foundation of the seawall by vibration from the construction. It was also considered that this effect has been further aggravated by the presence of voids within the gravelly material within the fill layer. Dr Li also showed the sinkhole developed at the site, in which a remarkable amount of concrete was used to backfill the sinkhole.

INSTRUMENTATION AND MONITORING

The principal instrumentation sections with ground settlement markers, inclinometers, standpipe piezometers and building tilt markers focused on the north wall (seawall), east wall and west wall (WSD's Saltwater Pumping Station). Monitoring results indicated substantial ground movement occurred during initial pile installation, especially on the side adjoining the existing seawall. The settlement is primarily attributed to the probable combined effects of over-excavation of soil material using high compressed air flushing technique in high groundwater condition and the compaction of fill material and rock fill foundation of the seawall resulting from the vibration of construction activities.

Generally, the monitoring results showed a reasonable agreement to the prediction by finite element analysis, except for the western wall in which the wall deflection 7.5mm is much lesser than the predicted 60mm. This is probably due to ignoring the strengthening effect by the ground improvement at the excavation side under raft PC3+4 with the aim to control differential settlement, which was decided subsequently to the earth lateral support (ELS) design.

CONCLUSION AND RECOMMENDATION

Dr Li concluded the talk with the following lessons from the project:

- Understanding of site history is important for developing ground model
- Proper selection of construction method and equipment is essential for controlling ground disturbance, particularly near sensitive structures
- Giken Super Crush Piler has successfully overcome obstruction (but this is costly)
- Settlement due to pile installation can be significant
- Collaboration of all parties involved is essential for delivering a project

DISCUSSIONS

During the discussion session, the following matters were raised and discussed:

- Differences between Plaxis Finite Element Method (FEM) software package and FLAC Finite Difference Method: Dr Li commented that Plaxis is easy to use and efficient in terms of running time, whereas FLAC may take a longer time to complete the analysis depending on the problem analysed.
- Giken Piling method: Dr Li gave a more detailed elaboration on the installation processes by showing photos. He then commented that the wear-and-tear rate of the auger is very high. On average, one new auger can last for three sheet pile installation at the rubble stone rock fill. Therefore, the operating cost is high.
- The control measure of building settlement measurement: Dr Li advised to make due additional allowance on the predicted settlement as there is always uncertainties in the FEM model prediction.
- Grout properties adopted for the project: Dr Li highlighted that jet grouting is new in Hong Kong. In the design parameters and operating parameters adopted for jet grouting, he made references to the test data available from Nicole Highway. But the performance in the validation test showed far better results than the adopted values.
- Ground settlement induced from pile installation: Dr Li highlighted that some portion of the ground settlement monitored was due to the potential ground loss as a result of the over-excavation of sandy materials using the Dubex air flushing drilling method. With the high water table at the site, soil liquefaction under drastic hydraulic head led to excessive sandy soil materials flowing into the drillhole.
- Interlocking problem of sheet piles: Dr Li commented that the interlocking of sheet piles in Giken statically push-in installation has shown good interlocking of the sheet pile clutch. However, he then showed the uncontrolled seepage in a badly interlocked sheet pile wall for another project which eventually flooded the whole excavation.
- The Hong Kong practise of monitoring king post heaving or settlement: Dr Li agreed that monitoring the heave or settlement of king posts is a good practice for the assurance of strut stability. In this project, most of the vertical supports for strut were founded on pile foundation. Therefore, it was not a concern.
- Tidal effect on the instrumentation results: Inadequate monitoring frequency prohibited an investigation of the potential tidal effect in the monitoring results. However, Dr Li shared the view that the tidal effect is undoubtedly prominent as a result of close proximity to the seafront.
- Abnormal heave at settlement markers, SS14: It was noted that significant sudden heave was observed at settlement

markers SS9, 10, 13 and 14, which showed an overall settling trend. Dr Li commented that the sudden heave must have been attributed to the construction activities at site.

For those who want to get more details of the project, it is recommended that they refer to the technical paper by Leung *et al.* (2009) as listed in the reference. A copy of the proceedings is available in the IEM library. ■

Acknowledgement: *The author wishes to thank Dr Eric Li S. F. for the use of his presentation slides in this report.*

REFERENCE

[1] Leung, K.Y., Li, S.F. and Leung C.L. (2009), "A Case Study: Design and Construction of Foundation and Braced Excavation at a Reclaimed Site at Waterfront", Proceedings of the Seminar on "The State-of-the-art Technology and Experience on Geotechnical Engineering in Malaysia and Hong Kong", 25 February 2009, Hong Kong. Geotechnical Division, The Hong Kong Institution of Engineers, ISBN: 978-962-7619-37-6, pp 27-41.

Talk on "Understanding the Importance of Copywriting"

by ***Ir. Dr Faris Tarlochan***

THE talk, organised by the Engineering Education Technical Division, coincided with the IEM Engineering Week 2009 (20-25 April 2009) and was attended by a total of 20 participants. It focused on creating an awareness on the importance of copywriting. Copywriting is the one skill that will turn words into cash, and it is really the one thing you must learn if you are thinking of selling anything at all.

The speaker was Ir. Soon Woi Kheng. The talk started with an explanation on the meaning of copywriting. Simply, the art and science of copywriting involves strategically writing words that promote a person, product, business, opinion, or idea, with the ultimate intention of having the reader take some form of action. Ir. Soon also identified where copywriting is commonly used, such as direct mail pieces, taglines, jingle lyrics, web page content, online ads, e-mail, television or radio commercial scripts, press releases, catalogs, billboards, brochures, postcards and sales letters.

Why is copywriting so important? Copywriting is one of the most essential elements of effective online marketing. It is sometimes even called 'Salesmanship in Print'. Ir. Soon showed some good examples on swipe file:
http://carltoncopycritiques.com
http://www.leadcopy.com

A common question that is normally asked is how can one become a good copywriter? The answer is, just become a student of copywriting and study from the masters.

Ir. Soon also covered some aspects of Sales Psychology which is integral to copywriting and also gave some tips on how to get started:

1) Become a sales detective – do market research
2) The most important thing you can do is read up and research your market.
3) Interview people using "like kind" products you plan to sell.
4) Go through your competitor's marketing system.
5) Sales thinking – see the unique angle, find "the hook".
6) Record a few of your own or someone else's sales messages and then craft it into a letter.
7) Get as many testimonials as you possibly can. This will help you craft your copy. The more you get the better. One on one interviewing is the best thing you can do.
8) Be street savvy. Learn the language of your audience. Then use it.

Presentation of examples of headlines words and copy connectors. Swipe file of samples on these application were displayed at http://www.perrymarshall.com/adwords/renaissance.

Samples cliche that sell and sample websites that sells were introduced. Illustration of opening sentences and sample usage were shown at http://www.successdoctor.com.

Tips to create 'Creating Breakthrough Writing' were presented. Speed Editing Secrets were revealed. When do you stop writing? How do you know when your work is polished? Do your best and send the work out. The feedback you get will help you do more rewriting, this is the secret.

Lastly, a step-by-step process on how to change average writing into hypnotic writing is made known:

1) See the event
2) Write to one person
3) Get excited
4) Get to the point
5) Do not judge

More samples to enhance the concept:

A "we" statement. It does not appeal to them all.	Focus on the interests of the person reading your words. Speak to their interests.
We have been in business five years.	You can rest assured you will get your item from us on time and to your satisfaction, as we have been doing this over five years.
We love to make donuts.	You will love our mouthwatering donuts because our passion for making them energises every one we create for you.
My e-product gets results.	The more you read into this website, the more you will realise that my e-products get results.

At the end of the talk, Ir. Soon recommended some very good resource links for more information:
http://www.thegaryhalbertletter.com/newsletter-archives.htm
http://www.marketingrebelrant.com
http://www.awaionline.com
http://www.perrymarshall.com
http://www.successdoctor.com
http://www.carltoncopycritiques.com ■

Workshop on 'Challenges of Women Engineers in the Industries'

by ***Ir. Sharifah Azlina binti Raja Kamal Pasmah***

THERE is more happiness in sharing than in keeping, and this was certainly the spirit on 22 October 2009 when the above workshop was held at UniKL MICET (Malaysian Institute of Chemical & Bio-engineering Technology) at Alor Gajah, Melaka. The workshop was jointly organised by the Sub-committee on Lady Engineers, IEM and the Section of Chemical Engineering Technology (SCET), UniKL MICET.

The 80 chemical engineering students – all ladies – and presenters from IEM, were both enthusiastic to impart upon each other shared knowledge and experience of becoming and being an engineer in the industry. For the presenters, the experience was equally valuable, as we took for granted our roles until we sat down and reflected upon them as a reminder to ourselves the obligation and demand of the profession.

After a welcoming address by Assoc. Prof. Dr Ahmad Marzio Mohd. Yusof, Deputy Dean of UniKL MICET, Ir. Sharifah Azlina Raja Kamal, a highway and transportation engineer, took the audience through the organisational structure of the IEM and the stance of the Sub-committee on Lady Engineers. Concerned with the decline in the number of women engineers who remain in the profession, which was then less than 12% of the total number of registered engineers in the nation, this sub-committee was formed with an objective to encourage aspiring lady engineering students to practice and remain in the engineering profession throughout their career life.

Ir. Raftah Mahfar, a geotechnical engineer, deliberated on the numerous activities held by this sub-committee since its formation and, in particular, during the recent years in promoting strong enthusiasm and inspiration to be a successful lady engineer. Part of the drive involved giving talks at universities as well as secondary schools to motivate female students to pursue a career in engineering and proudly be part of the nation-building team.

The presenters also briefly explained the requirements of becoming a professional engineer after graduation. Another key interest amongst the attendees was the challenges faced in striking a balance in both career and family fronts. "We do not strike a balance", said Ir. Sharifah Azlina, "we attend to both according to their needs and priority given to each." "And we multitask, women are natural multi-taskers, and this is how we get a lot, if not all, things done," added Ir. Raftah.

Ir. Yee Sew Ping, a professional engineer with chemical engineering background, gave an enlightening talk on her early days as a process engineer and her valuable experience after becoming a consulting engineer. She touched on the subject of contributions by a chemical engineer in areas such as, the oil and gas industries, wastewater and environment, and manufacturing; accentuating the immense demand for chemical engineers in the near future, both locally and globally.

To a concern whether chemical engineering is 'safe' especially among women, Ir. Yee emphasised that given the strict regimen of QA/QC and comprehensive procedures which are a norm in the manufacturing environment, she said, "Changing a bulb yourself at home carries more risks than carrying out a similar task in a controlled manufacturing environment."

Keen interest among the students was demonstrated during the Q&A session, such as the grave concern if they have made the right choice of career and how to juggle life in the ever-demanding profession. Assurance was given by the presenters that, although it is challenging, it is one of the more rewarding careers.

Ir. Dr Chan Tuck Leong, who is the spouse of Ir. Yee, gave an ad hoc presentation on chemical engineering and the roles of chemical engineers. Ir. Dr Chan, who practices in an oil and gas organisation, shared his knowledge on the career path upon graduation and the various opportunities to explore in related industries. He showed slides which illustrated the options available to aspiring chemical engineering students. Being the only 'thorn' among the lady speakers, Ir. Dr. Chan affirmed his support for the ladies in pursuing engineering as a profession.

After the scrumptious lunch provided by UniKL MICET, the workshop proceeded with group work. Each group, consisting of 10 students, was given a topic for deliberation. Their task was to analyse and explore the subject matter under the supervision of a lecturer in each group. Presentations were made on their findings at the end of the session, and the most creative group walked away with a hamper for their effort.

The workshop had raised awareness among the students on the requirements of the engineering profession and the challenges that come with the career. Nevertheless, it was strongly advocated that women should not be discouraged by the obstacles they encounter in this male-dominated industry. The workshop had also promoted empowerment among the female students to contribute to the development of the nation. ■