PRE-CONGRESS WORKSHOP (24/7/2011) REGISTRATION FORM

To: Secretariat, AAEC 2011
Fax: 082-260813
Email: twling@swinburne.edu.my

Contact Person: _____ Designation : _____

Organisation: _____

Address: _____

Tel: _____ Fax: _____

Email : _____

Participants	Contact No.	IEM No.	P.Eng No.
1.			
2.			
3.			
4.			
5.			

Registration fee:-

☐ **RM250 per participant x _____ = RM _____**

Mode of Payment: (please tick)

☐ **Cash** ☐ **Local Bank Cheque***

Cash & Local Bank Cheque is acceptable and made payable to:
Account Name : AAEC 2011
Malayan Banking Berhad, Bukit Damansara Branch
Account No.: 5-14329-41524-2

***Please write your name, company, tel & fax at the back of the cheque.**

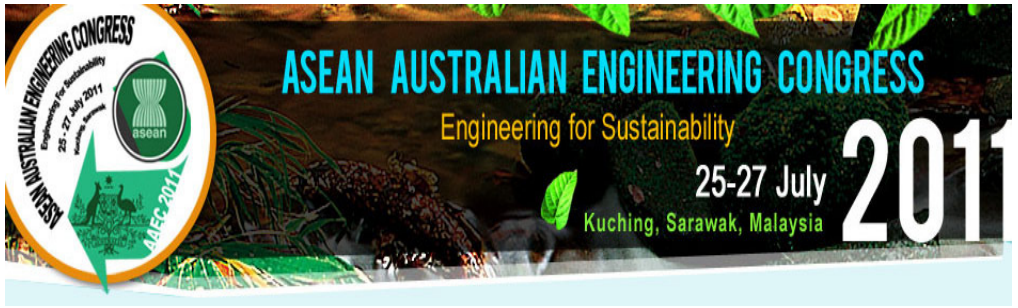
All registration fees must be fully paid before the commencement of the Workshop and AAEC2011 reserves right to disallow entry for participant(s) who have not paid their registration fees for the Workshop.

_____ _____

Signature & Company Stamp **Date**

OFFICE USE:

REGISTRATION ( ) PAID ( ) NOT PAID



Pre-Congress Workshop

Embedding Sustainability in Engineering Subjects and Programs

24 July 2011 (Sunday)
(8.30 a.m. to 5.00 p.m.)

Approved 2 CPD points from BEM

Swinburne University of Technology, Sarawak Campus

Presented by:

Dr Julia Lamborn
Chair Environmental College, Engineers Australia

Julian O'Shea
Curriculum and Research Coordinator
Engineers without Borders - Australia

Organized by:

ENGINEERS AUSTRALIA Malaysia Chapter

SWINBURNE UNIVERSITY OF TECHNOLOGY SARAWAK CAMPUS

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Embedding Sustainability in Engineering Subjects and Programs

The Engineering Accreditation Council (EAC), and most other Washington Accord Signatories' accreditation systems, state in their accreditation manuals that the all engineering programs must deliver graduates with a range program outcomes including:

- Understanding of the principals of design for sustainable development
- Understanding of the social, cultural, global and environmental responsibilities of a professional engineer

The Environmental College of Engineers Australia has been working for the last few years to more clearly define the discipline specific program outcomes from an environmental engineering program, to help universities prepare for accreditation and the embedding of sustainability into all engineering programs. In particular, the College has been involved in a two year program (2010-2011) funded by the Australian Teaching and Learning Council, called "Define Your Discipline". This project will deliver discipline specific program outcomes for environmental engineering and the process to enable other disciplines to assess their disciplines in the same manner.

This project and previous studies undertaken by Engineers Australia provide a good foundation to help academics embed sustainability into all engineering programs.

Workshop Facilitators:

- Dr. Julia Lamborn (Left), Chair Environmental College, Engineers Australia
- Julian O'Shea (Right), Curriculum and Research Coordinator, Engineers Without Borders - Australia

This workshop will cover:

- The sustainability principles for all engineering programs
- Different approaches for the inclusion of sustainability principals into existing programs

Workshop Outline:

- The workshop will cover the requirements for the embedding of sustainability principles in engineering programs by accreditation bodies.
  This will include a summary of the current findings of the "Define Your Discipline Project" and its extension to all engineering disciplines.
- Issues in embedding sustainability into existing programs and curriculum renewal
- Assessment approaches to ensure sustainability education is achieved
- Approaches to mapping at the program level to identify gaps
  This section will involve a hands-on program mapping exercise
- Introduction to Engineers without Borders (EWB).
  EWB will present their three main linkage areas with universities.
  - EWB Challenge - first year design project
    The majority of universities in Australia use the EWB challenge each year. This will involve a hands-on session involving one of the types of projects that the EWB challenges include.
    The participants will be divided into groups representing different countries, with access to appropriate resources for that country to complete the challenge. The outcomes from the different countries/groups will be compared. The educational benefit from these challenges will be highlighted.
  - Undergraduate final year research projects
    Around 12 projects for individuals and groups in their final year. This research is used to support EWB projects abroad.
  - High School Outreach program
    Linking engineering students to schools groups to run workshops about technology and development.

Outcomes:

- Gain an understanding of sustainability principles
- Identify issues in curriculum renewal that may be required to embed sustainability principles within engineering programs
- Develop approaches to evaluate engineering programs to assess delivery of sustainability principles
- Participate in a hands-on EWB challenge workshop

Programme:

08:30 – 09:00	Registration
09:00 – 10:15	Introduction Accreditation requirements for embedding sustainability in engineering programs Summary of Engineers Australia "Define Your Discipline" Project Activity: Identifying sustainability skills required by current graduates; Sustainability Attributes required for future engineers
10:15 – 10:45	Refreshment
10:45 – 12:00	Issues in curriculum renewal and assessment for sustainability education Attribute Mapping Activity: Building the groundwork from first year Investigation for alternative models/designs for years 2 - 4
12:00 – 13:45	Lunch
13:45 – 15:00	Introduction to Engineers without Borders Activity: EWB water filter challenge
15:00 – 15:30	Refreshment
15:30 – 16:45	Activity: EWB water filter challenge
16:45 – 17:00	Q & A
End of seminar	

Engineers without Borders (EWB)

Working with Communities

EWB works in partnership with developing communities both within Australia and overseas, assisting them to gain access to the knowledge, resources and appropriate technologies they need to improve their livelihoods.

We focus on developing the capacity of the local technical sector through small scale, grassroots engineering programs to ensure that innovative, appropriate and sustainable solutions to issues that impede development are locally generated and driven. We believe it is essential to work in partnership with local communities and complimentary development organisations to achieve environmentally sustainable, socially responsible and economically viable solutions.

Some common issues facing the communities we work with include access to drinking water, sanitation, energy, basic infrastructure, waste systems, Information Communication Technology and engineering education.

Learning & Change

We also aim to educate Australian engineers and the wider community on issues of sustainable development, appropriate technology, poverty and the plight of disadvantaged people around the world. EWB was created in 2003 out of the passion of young engineers who wanted to make a difference using their engineering skills and resources.

EWB brings together engineering students, young graduates, experienced engineers and even non engineers as a team to help solve basic, small scale engineering problems faced by many people in need. The objective of EWB is not only to contribute to new and ongoing development projects, but also provide development training and experience for Australians.

In Australia, our activities include workshops, lectures, fundraisers, discussion groups, seminars and a national conference. These are organised by EWB to engage our members in the mission and values of the organisation, and to gather support for the organisation. Much of the work of EWB is performed through its chapters, which are generally university, company or geographically based.