

REGISTRATION FORM		
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Name(s)	Grade & Membership	Fees (RM)
<b>Total Amount Payable</b>		

REGISTRATION FEE		
Grade	Normal (Offline)	Online
IEM/IStructE Student Member	RM100	RM90
IEM/IStructE Graduate Member	RM350	RM300
IEM/IStructE Corporate Member	RM450	RM400
Non IEM/IStructE Member	RM900	RM800

Company: \_\_\_\_\_

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E-mail: \_\_\_\_\_

Contact Person: \_\_\_\_\_ Designation: \_\_\_\_\_

Signature: \_\_\_\_\_ Date: \_\_\_\_\_

**PAYMENT DETAILS**

Cash RM \_\_\_\_\_

Cheque no. \_\_\_\_\_ for the amount of RM \_\_\_\_\_ (non refundable) and made payable to "THE INSTITUTION OF ENGINEERS, MALAYSIA" and crossed 'A/C Payee Only'.

**Terms & Conditions:**  
**FULL PAYMENT must be settled before commencement of the seminar**, otherwise participants will not be allowed to enter the hall. If a place is reserved and the intended participant fails to attend the course, the fee is to be settled in full. If the participant failed to attend the course, the fee paid is non refundable. Registration fee includes lecture notes, refreshment and lunch.  
 For **ONLINE REGISTRATIONS**, please note that payment **MUST** be made before the closing date. If payment is not received within the stipulated time, the registration fee will be reverted to the normal registration fee.



The Institution of Structural Engineers



ONE-DAY SHORT COURSE ON

**SUSTAINABLE CONSTRUCTION**

**Speaker:**  
**PROFESSOR ROGER PLANK**

**Date** : 6 March 2012

**Time** : 9.00 am - 5.00 pm

**Venue** : Hotel Armada Petaling Jaya

**BEM APPROVED**  
**CPD/PDP HOURS; 6**  
 Ref. No.: IEM12/HQ/019/C

**Important Notes:**

- **Closing Date : 2 March 2012**
- **For online registrations**, please note that payment **MUST** be made before the closing date. If payment is not received within the stipulated time, the registration fee will be reverted to the normal registration fee.
- Registration via LO/PO will be considered as normal registration fee.

**Co-Organised by :**

Civil & Structural Engineering Technical Division, IEM and IStructE Malaysia Division

Time	Tentative Programme
0800 - 0900	Arrival and registration / Morning coffee/tea
0900 - 0905	Welcome and Introduction
0905 - 1030	<p><b>Introduction to sustainable construction</b> This lecture outlines the importance of immediate action to ensure sustainable development and explains why construction has such a major role to play. The broader issues are introduced but the focus is on those actions which the construction industry can take to make the biggest improvements, namely reducing carbon dioxide emissions and energy use associated with both the building process and the operation of buildings throughout their life. It is also important that the useful life of the building is prolonged, opportunities are taken to reuse components and recycle materials when they are no longer needed, and that materials are sourced in such a way that impacts are minimised. The challenge of reducing demolition waste and making positive use of other waste products are also considered.</p>
1030 - 1100	Mid-morning Coffee/Tea & Light Refreshment
1100 - 1230	<p><b>Life cycle assessment and embodied energy/carbon</b> The principles of Life Cycle Assessment are introduced and some of the issues discussed. The drive for sustainable construction requires a collaborative approach over a wide range of issues, but one which is clearly the principal responsibility of the structural engineer is the embodied energy and carbon of the building structure. Whilst this is not a technically difficult topic and the science is imprecise, it is unfamiliar to many. This lecture therefore sets out to explain the principles of estimating the embodied carbon of a building, and the sources of useful data. Some general observations are included about the importance of embodied carbon in relation to other impacts, and issues such as the variability and uncertainties in the data are discussed. Practical advice is given about what structural engineers can do to help reduce the carbon footprint of buildings, and some simple examples are included to illustrate the application of the principles.</p>
1230 - 1400	Lunch
1400 - 1500	<p><b>Operational energy; Re-use, recycling and reduction</b> This lecture outlines the principles of estimating operational impacts and discusses the influence of structural form on the energy efficiency of buildings. The issue of efficient use of materials is then considered by examining how greater use can be made of existing buildings and components, more recycling, and reducing the use of new materials.</p>
1500 - 1530	Afternoon Coffee/Tea & Light Refreshment
1530 - 1630	<p><b>What makes a sustainable building?</b> Assessment tools are often used to measure the sustainability of buildings. The principles of such systems are outlined, and some specific actions to help achieve a high score are identified. Finally some examples are given of real projects which have incorporated a range of features to improve their sustainability rating.</p>
1630 - 1700	<p><b>Sources of further information</b> A number of publications and internet-based resources are available and a small selection of these is provided. <b>Q &amp; A</b></p>

## Course overview

The need for sustainable construction is becoming increasingly important as a design influence, requiring a collaborative approach over a wide range of issues. Some of these are well beyond the scope of normal structural engineering, but do impact on the structure and its design, so at least a broad familiarity is essential. There is a strong interaction, and sometimes conflict, between the main indicators of sustainability, but one of the key issues is to minimise use of resources. This links strongly to the more general need to control the embodied energy and carbon of the building structure, and these are clearly the principal responsibility of the structural engineer. It is of course important to consider operational impacts as well, as for most buildings these are still dominant. The aim of this course is to familiarise engineers with the underlying principles of sustainable construction, but more importantly to offer practical advice on actions to achieve this.

## BIODATA OF SPEAKER



**Professor Roger Plank**  
BSc (Hons), PhD, CEng, MICE, FIStructE

Prof. Roger recently retired as Professor of Architecture/Structural Engineering at the University of Sheffield, but continues to practise research and consultancy, principally in structural fire engineering, but also in sustainable construction, and he has led a number of projects dealing with aspects of fabric energy storage and design for dismantling. He has played a leading role for the steel sector, the European Convention on Constructional Steelwork, and the Institution of Structural Engineers in the field of fire engineering and sustainable construction, and contributed to a number of government initiatives. He is regularly invited to speak at conferences, seminars and short courses for practitioners on these subjects. He is a director of Vulcan Solutions which provides software and consultancy in fire engineering, and is currently President of the Institution of Structural Engineers.

### For further details please contact:

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