

## Registration Form

### Short Course Characterization of Advanced Materials

Name: .....  
Designation: .....  
Organization: .....  
Address: .....  
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.....  
Tel: ..... Fax: .....  
Email: .....

#### REGISTRATION FEE

**LOCAL: RM 1000 per person**

**INTERNATIONAL: USD 1000 per person**

(Inclusive notes and refreshments)

#### METHOD OF PAYMENT

Cheque/Money Order/Postal Order made payable to **"BENDAHARI UNIMAP"**.

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Signature Date  
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Please complete the form and send it by email/mail to our secretariat at

The Secretariat  
Short Course Characterization Advanced Materials  
c/o Centre of Excellence Geopolymer Research Group,  
Universiti Malaysia Perlis (UniMAP)  
Kompleks Pusat Pengajian Jejawi 2  
Jejawi, 02600 Arau  
Perlis, MALAYSIA

Further information please contacts:  
Mrs. Liyana Jamaludin  
Email: [liyanajamaludin@unimap.edu.my](mailto:liyanajamaludin@unimap.edu.my)  
Tel: 012 9275510

## Speaker Information

Dr Ghazali Omar is the Principal Consultant of EFGO Scientific Sdn. Bhd. Prior to that, he was the Head and Senior Manager at Failure Analysis Lab at Infineon Technologies, Kulim.

#### Education backgrounds:

- B. Eng. Mechanical Engineering (1990) at Victoria University of Technology, Australia.
- Master of Tech (Material Science) (1997) at University of Malaya.
- PhD Science – Physics (2005) at University of Malaya.

#### Expertise and achievements:

- Material science field including material characterization and analysis.
- Experience in analytical tools such as XRD, TEM, SEM, FTIR.
- Consultant for many industries to help characterizing material issues.
- Published more than 30 research papers in national and international journals.
- Presented more than 40 papers at various international conferences.
- His published works accumulated more than 100 self-excluded citations from independent sources.
- In 2002, he won the Malaysian Best Employee of the year awarded by Malaysian Prime Minister.



### SHORT COURSE CHARACTERIZATION OF ADVANCED MATERIALS

27<sup>th</sup> – 28<sup>th</sup> OCTOBER 2011

**SPEAKER: Dr. Ghazali Omar**

**Venue:**

**Centre of Excellence  
Geopolymer Research Group  
School of Material Engineering  
Universiti Malaysia Perlis (UniMAP)  
Kompleks Pusat Pengajian Jejawi 2  
Jejawi, 02600 Arau  
Perlis, MALAYSIA**



**Closing Date: 20 October 2011**

Organised by:  
Centre of Excellence  
Geopolymer Research Group  
School of Material Engineering  
Universiti Malaysia Perlis (UniMAP)

## Course Overview

The aim is to introduce the principles of the materials analysis characterization methods based on microscopy, chemical, physical and structural analysis and thermal techniques.

Consideration will also be given to the analysis of particulate materials and coatings. The basic principles used for the physical characterization of materials will be outlined; microscopy by light, electrons and scanned probes will be introduced; and the readily available bulk characterization methods such as diffraction, X-ray analysis will be described.

## What You Will Learn

The fundamentals of each analytical technique:

- Comparative review of the instrumentation options with emphasis on differences in resolution, sensitivity, sample requirements.
- Data acquisition strategies and data interpretation methods.
- Expert tips on how to avoid measurement artifacts.
- Critical review of strength and weaknesses of each technique: how to combine techniques to extract the best possible complementary information.

## Learning Modules

### Day 1 (27<sup>th</sup> October 2011)

- Introduction of the Materials Science
- Basic Characteristics of Materials
- Scanning Electron Microscope (SEM)/ Energy Dispersive X-Ray (EDX)
- Universal Testing Machine (UTM)

### Day 2 (28<sup>th</sup> October 2011)

- Fourier Transform Infrared Spectroscopy (FTIR)
- X-ray Diffraction (XRD)/X-ray Fluorescent (XRF)
- Thermogravimetric analysis (TGA)/Differential Thermal Analysis (DTA)
- Differential Scanning Calorimetry (DSC)
- Critical review of strength and weaknesses of each technique
- Case Study Session

## Who Should Attend

The course is directed at engineers, researchers and student who require a thorough grounding in the characterization methods described above. They are applicable to a wide range of industrial scenarios including "trouble-shooting" investigations, quality assurance and longer term research projects. As the field of materials characterization is developing very rapidly, the course provides an ideal opportunity to review the scope and applicability of the more specialist methods of microscopy and surface analysis.

## Accommodation

There are several hotels near short course venue that participant can choose to stay in

### List of hotels:

- Hotel Putra Palace (04 - 9767755)
- Hotel Sri Malaysia (04 - 9771777)
- Sooguan Villa (04 – 9772250)
- Federal Hotel (04 – 9766288)
- Hotel Sri Garden (04 – 9773702)

## Location

