



**TALK ON**  
**APPLICATIONS OF FORENSIC METALLURGY**  
*(Organised by Oil, Gas & Mining Technical Division, IEM)*  
**BEM Approved CPD/PDP : 2 Hours Ref No: IEM16/HQ/305/T**

Date : 3<sup>rd</sup> Sept 2016 (Saturday)  
 Time : 9.00am to 11.00am (Refreshments will be served at 8.30am)  
 Venue : TUS and C&S Lecture Rooms, 2<sup>nd</sup> Floor, Wisma IEM, Petaling Jaya  
 Speaker : Ir. Qua Hock Chye

**SYNOPSIS**

A large proportion of engineering components are metal-based and they will occasionally fail. Identification of the root causes of failure is essential to prevent further occurrences. Accurate identification very often requires the application of metallurgical methods of examination – forensic metallurgy. A summary of four case studies are presented, as follows:

- Case A: Gas Turbine blade fatigue failure.
- Case B: Stress corrosion cracking of stainless steel.
- Case C: CO<sub>2</sub> corrosion of linepipe from oil well.
- Case D: Arc erosion of babbitt bearings.

**BIODATA OF SPEAKER**

Ir. Qua retired from the Engineering Faculty UM in 1999 as an Associate Professor; his term was extended as a senior Research fellow to 2002, after which he joined TNB Research Sdn. Bhd. as a Consultant. He is now Technical Director of Profmetal Sdn. Bhd.

Ir. Qua's specializes in Failure Analysis and metallurgical problems and currently has undertaken more than 400 cases over a wide range of industries. He has recently co-authored a book that includes his past cases, titled. "Applied Engineering Failure Analysis", published by CRC Press. At present Ir. Qua's activities has been enlarged to include RBI (risk based inspection) of high temperature boiler steels in power plants, in particular creep degradation and remaining life estimation.

**Ir. Mohd Azwira Mohd Azmi**  
 Chairman  
 Oil, Gas & Mining Technical Division, IEM

**ANNOUNCEMENTS TO NOTE:**

- Preferential admission to talk shall be accorded to IEM members (pre-registration and online registration are NOT required). Telephone and/or fax reservation will NOT be entertained.
- **Non members** may also attend the talk but will need to pay a registration fee of **RM50** and an administrative fee of **RM15**. GST is inclusive.
- For members of affiliated organisations, there will be no registration fee payable. However, they are requested to produce their membership card as proof of membership. For the list of affiliated organisations, please refer to IEM website at [www.myiem.org.my](http://www.myiem.org.my) under International/MoU.
- Limited seats are available on a "first come first served" basis (maximum 100 participants).
- IEM members are required to produce membership cards for confirmation of attendance (CPD purpose).
- Latecomers will not be allowed to enter if the lecture hall is full nor be entitled to CPD.
- **IEM members who fail to produce their membership cards will be charged a fee of RM25.00. GST is inclusive.**

**ADMINISTRATIVE FEE**

- Kindly be informed that an administrative fee of **RM15** is payable for talks organized by IEM. GST is inclusive.
- The fee would be used to cover overhead costs, building maintenance expenses as well as contribute to Wisma IEM Building Fund.
- All contributions will be deeply appreciated by IEM.
- Student Members are however exempted.

**PERSONAL DATA PROTECTION ACT**

I have read and understood the IEM's Personal Data Protection Notice published on IEM's website at <http://www.myiem.org.my> and I agree to IEM's use and processing of my personal data as set out in the said notice.

**CPD/PDP HOURS CONFIRMATION**

Name: .....

Membership No: .....

Signature: .....