



## **Eurocode 0: Basis of structural design and Eurocode 1: Actions on structures**

**2-3 October 2017, London, UK**

### **Objectives:**

- To provide civil engineering and external hazard specialist inspectors with an understanding of concepts, philosophies, terminology and application in design practice. The courses will not be aimed at providing inspectors with a hands on approach on how to use the codes and instead should be geared to that of a regulatory point of view.
- It is not intended that course delegates will be required to complete written worked examples. To provide other specialist inspectors with an appreciation of Eurocodes.
- All inspectors are able to appreciate the depth and breadth of the subjects, and know when to seek expert advice

### **Scope:**

Deliver a training course over 1.5 days to cover Eurocode 0: Basis of Structural Design and Eurocode 1: Actions on Structures.

- The course duration, including introductions and closing discussions, should be approximately 10.5 hours. The course will take place from 09:00 – 17:00 (Day 1) and 09:00 – 13:00 (Day 2).

### **Course content and delivery:**

The course is to cover the definition, philosophy and application of Eurocodes 0 & 1 in design practice, including the following:

- Introduction to the Eurocode suite
- Overview and requirements of Eurocode 0
- Design considerations and limit states
- Eurocode verification procedure and partial factors
- Overview of Eurocode 1

- Densities, self-weight and imposed loads
- Snow, Wind, Thermal loading
- Actions during execution
- Accidental actions
- Risk Analysis
- Common pitfalls and error traps

**Cost:**

£350

**Lecture Profile**

**Dr Boulent Imam** graduated with an Honours B.Sc. degree from the Middle East Technical University in Ankara, Turkey. He obtained his M.Sc. in Structural Engineering with Distinction from the University of Surrey in 2002. His M.Sc. dissertation was on the probabilistic fracture assessment of the Northridge moment resisting connections and led to the publication of two papers. Dr Imam continued his studies at the same university where he successfully defended his PhD in June 2006. Dr Imam's PhD work focused on the fatigue analysis of riveted railway bridges and was funded by EPSRC and Network Rail. He developed a general methodology for the fatigue assessment of riveted railway bridges, through finite element (FE) analysis, by concentrating on the fatigue behavior of their primary connections. Following the completion of his PhD in June 2006, Dr Imam continued his research as a postdoctoral researcher at the University of Surrey. He expanded his experience in load modelling by investigating the effect of future load evolution scenarios on the remaining life of riveted railway bridges. Parallel to this study, he also investigated, as a continuation of his PhD work, the application of novel assessment methods for more reliable remaining fatigue life estimation of riveted bridge connections. In November 2007, Dr Imam was appointed as a Lecturer in Civil Engineering at the Faculty of Engineering and Physical Sciences in the University of Surrey. He was promoted to Senior Lecturer in 2013. Dr Imam has contributed significantly towards in-depth understanding of the fatigue behavior of riveted railway bridges and developed methods for more reliable quantification of their remaining fatigue life taking into account historical rail traffic, novel fatigue assessment methods, loading, resistance and modelling uncertainties as well as system effects. Later on, he extended his work on fatigue towards developing fracture mechanics guidelines for the assessment of fatigue crack growth in steel bridge details towards the optimisation of inspection and maintenance planning in steel bridges. Recently, Dr Imam has provided valuable insight towards understanding the potential impacts of climate change on bridges and quantifying the resilience of bridge infrastructure against these impacts by developing a risk-based framework for assessing the reliability of bridges over time by considering long-term material deterioration and bridge scour as well as the consequences of failure of bridges. This is complemented by his research in the area of climate change adaptation and asset management.

Dr Imam has also delivered the same course for AMEC Foster Wheeler at Knutsford in 2011.