Fundamentals of Noise Modeling

Description:

The objectives of the workshop are to introduce acoustic modelling to the participants. The workshop focuses on fundamentals of acoustic modelling. Acoustic modelling is an extensive topic, so the emphasis in this workshop will be on sound wave propagation in the air (atmosphere) and attenuation of sound waves in the path between the noise source and the receptor using two methods:

1. Exact mathematical solutions (i.e., Boundary Element Methods in Acoustics) - **quick overview**; and
2. Approximate geometric Solutions (i.e., simplified engineering methods using commercial software) - **extended overview**.

This workshop will be advantageous for technicians and engineers, workers in the field of occupational noise and in the fields of noise regulations and control.

Topics include:

- Review of sound waves, propagation and modes
- Acoustic Modeling Theory including mathematical, boundary element and geometrical models
- Modeling of noise Sources including traffic noise, industrial Noise sources including factories and processing plants.
- Qualifying Noise including impulsive, tonal, and low frequency
- Overview of Standards including Canadian, ISO and ANSI,
- Question and Answer session

Recommended Prerequisite: Equivalent background or experience in Acoustics, Sound level Measurement, and Environmental Noise practices are all helpful to gain a full understanding of this course content.

Instructor: Salem Hertil M.A.Sc., MIOA, mem INCE.

Mr. Hertil is a specialist in acoustics, noise and vibration assessment and Control. He worked in this field for the past 22 years. He has also conducted research and development in the areas of applied acoustics and noise control, Infra-sound and low-frequency noise assessment and control and occupational noise. His education was in the areas of mechanical engineering, acoustic and electronic engineering.