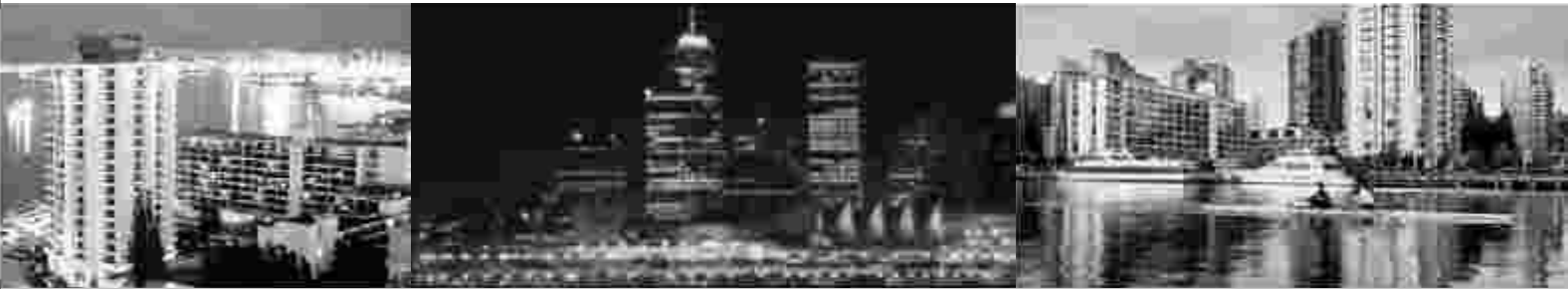




# World Congress

Vancouver, Canada  
May 22nd - 25th **2007**

## Engineering Simulation: Innovation Leads to Competitive Advantage



Sights and Scenes from Vancouver, Canada - The venue of World Congress 2007

breakthrough technologies • case studies/best practises • visions of the future

**T**he Eleventh NAFEMS World Congress will be held on May 22nd-25th 2007, in Vancouver, Canada, at the Westin Bayshore hotel. Focusing on all aspects of simulation, the particular focus of the Congress will be on how simulations technologies can stimulate innovation and lead to competitive advantage for all users.

As ever, the World Congress is an unmissable event for all engineers, analysts, managers and software developers who deal with engineering analysis and simulation.

To register your interest in attending the conference, submitting a paper, sponsoring or exhibiting at the event, please visit [www.nafems.org/congress](http://www.nafems.org/congress)

The International Congress on Simulation Technology  
for the Engineering Analysis Community

Engineering Design & Analysis Forum (EDAF) proposes to take a delegation of Indian Analysts to this World Congress. For details please see [www.edafindia.org](http://www.edafindia.org)



# NAFEMS TRAINING COURSE

THE INTERNATIONAL ASSOCIATION FOR THE ENGINEERING ANALYSIS COMMUNITY

## Practical Stress Analysis & Finite Element Methods

This programme is meant for practicing engineers who wish to apply FEM techniques for design analysis and verification. No prior knowledge of FEM software is required.

*An opportunity to ensure that your organisation gets maximum benefit from using FEA*

This new three-day NAFEMS course is aimed at practising engineers who wish to learn more about how to apply finite element techniques to their particular problems in the most effective manner. The material that is presented is independent of any particular software package, making it ideally suited to current and potential users of all commercial finite element software systems. This course is a must for all engineers aiming to use FEA as a reliable predictive tool for thermal, stiffness and stress analysis.

In order to derive maximum benefit from the available FEA technology, engineers should learn about the many strengths of different techniques. At the same time, recommendations on how to avoid the inevitable pitfalls will prove invaluable at a later date. NAFEMS addresses this requirement by providing this three day example-driven, practical course.

### Who Should Attend?

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- Day 1
  - Basic Theory of FEA
  - Direct Stress and Strain
  - Shear Stress and Torsion
  - Bending Stress
  - Thermal Stress Effects
  - Stress Concentration Effects
  - Fatigue and Impact
  - Properties of Materials
  - Stiffness Calculations
  - Units and Unity Bracket
- Day 2
  - Introduction to 1D FEA
  - Introduction to 2D Methods
  - 2D Plane Stress/Plane Strain
  - 2D Axi-Symmetric Problems
  - Introduction to the Real World in 3D
  - Example of Simple 3D Analysis
  - Processing of 3D CAD Data
  - Preparing CAD Data for Analysis
  - Fast and Accurate Meshing Methods
- Day 3
  - Design of Loading and Constraints
  - Representative Material Properties
  - Results Interpretation/Verification
  - Balanced Loads/Minimal Constraint
  - Non-Linear Considerations
  - Introduction to Plasticity in FEA
  - Introduction to Contact in FEA
  - Best Practice in Industry
  - Getting Help When Things Go Wrong

Engineering Design and Analysis Forum (EDAF) seeks your opinion on the relevance of the above NAFEMS programme. Please post your views and suggestion at [www.edafindia.org](http://www.edafindia.org)