

# PIPE STRESS ANALYSIS & SURGE FLOW PREDICTION

Using

## CAESAR II® & FLOWMASTER V7

2009 (11<sup>th</sup> May to 16<sup>th</sup> May) Singapore

### Course Synopsis

This 6-day course is a combination of the world renowned COADE Pipe Stress Engineering course and a one-day introduction to Fluid Network Analysis to predict surge flow conditions.

Pipe Stress Analysis is an important requirement for the safe design & operation of a process plant. Adherence to international codes (ASME, DIN etc) is necessary for safety compliance. To better understand pipe stress conditions due to fluid pressure surges arising from transient operating scenarios, especially normal & emergency shutdowns and start up, a fluid network analysis is necessary.



In Pipe Stress analysis, the course will cover piping system modelling techniques, static (3days) and dynamic (2days) analysis, evaluation of piping designs and approaches to re-design. This is followed by coverage of modelling and simulation of fluid networks using Flowmaster (1day).

### How will you benefit from the course?

- \* You'll learn to how analyse your company's pipe stress problems that may have been sent to "specialists"
- \* You'll learn the underlying engineering principles used in analysing types of loads affecting piping systems.
- \* You'll learn the theory behind the problems to help you gain more confidence in your modeling and build better models faster.
- \* You'll work through examples to gain insight to the subjects. Comprehensive course notes are provided which will serve as a useful reference document for your future work.
- \* You'll be exposed to recent techniques in dynamic transient analysis.

### Why should your company sponsor you?

- Ⓜ You will be able to accurately and speedily solve and understand the impact of surges and pipe stress problems
- Ⓜ You will become the in-house specialist thus eliminating the need for high cost consultants.
- Ⓜ All future re-design and improvements will be speedily implemented in a cost effective manner.

In short, your company will gain a competitive edge and at the same time you progress your career.

### Who Should Attend?

Anyone involved with piping in the petroleum, chemical, power, gas transmission, water and related industries can benefit from this up-to-date, information-packed short course, whether they use CAESAR II, other pipe stress programs - or don't use any!

Mechanical/Design Engineers  
Engineering Managers  
Plant Managers

Piping/Vessel Engineers  
Maintenance Engineers  
Piping Designers





Registration

Kindly complete the form and email to [education@iocsasia.com](mailto:education@iocsasia.com) or fax to 65 6778 9200.

Registration for Pipe Stress Analysis and Surge Flow Prediction course

Company's Name: _____			
Address: _____			
Contact Person:		Tel:	Email:
Details of Participants			
Name	Position	Tel	Email

Mr. Babu Mohan will gladly answer any queries you have at 65 6779 5122 or Email to [babu\\_mohan@iocsasia.com](mailto:babu_mohan@iocsasia.com)

- \* Upon booking an invoice will be emailed/ faxed to you.
- \* Upon invoicing, immediate payment to confirm your seat.
- \* NO refund but Substitution of names from the same company allowed.
- \* Course fee is inclusive of lunch & tea/coffee breaks, course material (worth USD250).
- \* Certificates of Training Attendance.
- \* The course is accredited with 42 PDUs by the Singapore Professional Engineers Board.

