Post-Conference Training

June 6-7, 2012 (Wed-Thur), 9a-5p, **University of Michigan-Dearborn**
(two days, includes light continental breakfast at 8:30am, lunch each day)

Please Note: Final course selection, BASED ON REGISTRATION RESPONSE, will be announced May 1, 2012.
Registration Confirmations will be sent to registered students after this date.

Course Fee: $450 (Students with valid ID: $250)

ALE/Eulerian & Fluid Structure Interaction in LS-DYNA®

Instructor: M'hamed Souli

This course covers the features in the solver provided to analyze fluids and, in particular, the interaction of fluids and structures using the Arbitrary Lagrangian Eulerian (ALE) capabilities.

The theoretical background to fluid modeling in LS-DYNA is presented and illustrated with several practical applications; problems solved during the workshop include tank sloshing, tank dropping (partial and complete fill), viscous flow in a channel, underwater explosion, bird strike, slip collision and acoustics in air and water.

A specialist knowledge of fluids is not required.

Course Content:

- Introduction of Eulerian and Lagrangian formulations
- ALE smoothing algorithms
  - Simple Average
  - Volume Weighting
  - Equipotential
- Advection Algorithms
  - First order donor SALE algorithm
  - Second order Van Leer
  - Second order + Half Index shift.
- Material and void
  - Advection algorithm in voided material
- Multi-material formulation
  - Advection in multi-material formulation.
  - Pressure equilibrium.
  - Fluid/Structure Coupling
  - BEM Vibroacoustic Analysis in LS-DYNA