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)

Advanced ALE Applications

Instructor: Ian Do, Ph.D. (LSTC)

OBJECTIVE:

This application oriented seminar is designed to help users already familiar with LS-DYNA (and the ALE method) get more proficient at using the more complex features of ALE and fluid-structure interaction (FSI) modeling.

The first part of Day 1 is for reviewing some critical ALE features, FSI usage & basic concepts. The rest of the time is for constructing example models.

PLEASE NOTE: This is a very hands-on seminar. For each example model,

1. The instructor will define the physics of the problem.
2. Then the attendees are expected to conceptually construct a detailed pseudo-input file for the model themselves (pencil-paper).
3. Afterward, we will go over the modeling details together.

The attendee will get out of this class only as much as she/he is willing to put into it.

Basic Concepts:

(01) Introduction
(02) ALE Multi-Material Group (AMMG) concepts and applications
(03) Fluid-Structure Interaction (FSI) concepts
(04) Initial and boundary condition set up with ALE element formulation (ELFORM=11)
(05) Material failure modeling
(06) Information on typical unit systems and references

List of possible application examples:

(11) Soda can drop
(12) Tank sloshing and impact
(13) Extrusion
(15) Bird strike fan blade assembly model
(16) Projectile-target penetration modeling
(17) Simple flow in flexible tube
(21) Hydrostatic pressure initialization
(22) Wave impacting floating “ship” (simple model)
(23) Cylinder (Rocket booster) impacting water model
(27) Tanker floating and moving through water