



Locations:

Livermore Software Technology Corp.
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1740 West Big Beaver Road Troy, MI 48084

Contact: classes@lstc.com
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CAE for Non-CAE Engineers

Instructor: Dr. Nils Karajan

1 Day - \$200, Students \$100 w/student ID

Includes on-site continental breakfast, lunch, breaks and class notes

Prerequisite: Prerequisite is not required

This is NOT a beginner's class for simulation with LS-DYNA.

Description: This class is designed for attendees who would like to gain a better understanding of the simulation methods used in computer-aided engineering (CAE) and what can be accomplished with them. The class is for attendees who need to interact with CAE engineers, but do not have a CAE background.

The class is to provide an overview of simulation techniques used in vehicle development and to increase acceptance of CAE methods. Additionally, attendees will strengthen their capability to understand simulation models and gain the ability to better understand and interpret simulation results. This includes learning of the specific vocabulary, understanding model assumptions, as well as model plausibility and limits.

Contents:

- Introduction
 - Motivation and brief historical review on simulation
 - Application examples with focus on automotive industry
- Theoretical basics
 - From the real world to the simulation model
 - The finite-element method
 - Time-advancing schemes
 - Modal analysis
- CAE Workflow
 - How is the meshing done
 - Introduction to material models
 - What are loads and constraints
 - Contact and joining techniques
 - What does the solver do
 - What is post processing