



15th LS-DYNA International Conference & Users Meeting

Post-Conference Training (2 days)
Wednesday-Thursday, June 13-14, 2018, 9am-5pm
Edward Hotel & Convention Center, Dearborn, MI

Concrete & Geomaterial Modeling with LS-DYNA®

Instructor: Len Schwer, Ph.D.

Objective

The course starts from the common ground of introductory metal plasticity constitutive modeling and successively builds on this base adding the constitutive modeling features necessary to model concrete & geomaterials. The LS-DYNA constitutive models covered are adequate for modeling most types of rock, all concretes, and a large class of soils. The course is intended for those new to concrete & geomaterial constitutive modeling, but will also be useful to those seeking a more in-depth explanation of the LS-DYNA concrete & geomaterial constitutive models covered.

A significant portion of the course is devoted to understanding the types of laboratory tests and data that are available to characterize concrete & geomaterials. Unlike most metals, whose strength is characterized by a single value obtained from a simple uniaxial stress test, concrete & geomaterial characterization requires a matrix of laboratory tests. Knowledge of how these tests are performed, the form and format of typical laboratory test data, and the interpretation of the data for use with a concrete or geomaterial constitutive model, is essential to becoming a successful concrete & geomaterial modeler.

DAY 1

- Introduction to Metal Plasticity
- Introduction to Geomaterials
- Material Characterization – Laboratory Tests & Data
- Exercises, Case Study

DAY 2

- Simple Input Concrete Models
- Case Studies
- Modeling Reinforcement, including pre- and post-tensioning
- Winfrith Concrete Model – Crack Patterns
- Strain Rate Effects
- Introduction to the LS-DYNA Cap-Models – x Calibrating the Geological Cap Model

For a more detailed course outline, please see <http://www.duboisschwertraining.com>

For further information regarding pre- and post-conference training, please consult the conference website www.ls-dynaconferences.com or send email to ConfTraining@lstc.com.