



Locations:

Livermore Software Technology Corp.
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Contact: classes@lstc.com
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EM - Battery modelling, spot welding and resistive heating applications

Instructor: Inaki

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

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

Includes 30-day demonstration license

Prerequisite: Students should be familiar with LS-DYNA.

Objective: Attendees will gain knowledge in electromagnetics and more specifically in how DYNA allows the simulation of battery behavior (both under normal charge/discharge configurations and under abuse scenarios when shorts occur) as well as how to set up a resistance spot welding case (RSW).

Description: This course is recommended for attendees who want to use the EM solver for specific and advanced applications such as battery modelling, resistance spot welding and heating. The course does not require any prerequisite as far as EM knowledge is concerned but goes in depth into the inner workings of the resistive heating solver.

Contents:

- **Resistive heating solver**
 - Principles
 - Keyword introduction (2D and 3D)
 - Solid and thermal coupling
 - Source terms and case study
 - Contact and Erosion
 - Wire modeling

- **Resistive Spot Welding (RSW)**
 - Physical concept and industrial background
 - Numerical modeling

- **Battery module**
 - Simulation objectives.
 - Randle circuits
 - Solid element model
 - Tshell model.