

# PLECS WORKSHOP

Advanced Modeling and Simulation of Power Electronic Systems Day 1  
Aalborg University, October 25, 2016

08:30	Registration
09:00	<b>Introduction to PLECS</b> <ul style="list-style-type: none"><li>▶ General use of PLECS Blockset and PLECS Standalone</li><li>▶ Instantaneous switching</li><li>▶ Variable and fixed-step operation</li></ul> Exercise: Modeling a switched-mode power supply
10:00	Break
10:30	<b>Solver Settings</b> <ul style="list-style-type: none"><li>▶ Definition of stiff and non-stiff systems</li><li>▶ Explicit and non-explicit solvers</li><li>▶ Stability domains</li><li>▶ Accuracy considerations, step size control</li><li>▶ Proper handling of discontinuities, zero-crossing detection</li></ul> Exercise: Solver accuracy and settings
12:00	Break
12:00	<b>Introduction to Thermal, Mechanical &amp; Magnetic Modeling &amp; Simulation</b> <ul style="list-style-type: none"><li>▶ Switching &amp; conduction loss descriptions</li><li>▶ Combined electrical-thermal simulation</li><li>▶ Permeance Capacitance Analogy Model</li></ul> Exercise: Thermal modeling of a buck converter
14:00	Lunch
15:00	<b>Overview of PLECS Tools and Q&amp;A</b> <ul style="list-style-type: none"><li>▶ AC Sweep and Impulse Response Analysis Tools</li><li>▶ Steady State Analysis Tool</li><li>▶ Implementing custom components</li></ul> Exercise: Creating a custom PV string component
16:00	End of day
Contact	Plexim GmbH, +41 44 533 51 00, <a href="mailto:info@plexim.com">info@plexim.com</a>
Location	Aalborg University, Room 3.115, Pontoppidanstraede 105, 9220 Aalborg
Note	This workshop on October 25 addresses to anyone who has not been using PLECS before. There will be another workshop on October 26 in the same location.