# PLECS WORKSHOP

Advanced Modeling and Simulation of Power Electronic Systems Day 1
Aalborg University, October 8, 2015

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| 08:30 | **Registration** |
| 09:00 | **Introduction to PLECS**<br>▶️ General use of PLECS Blockset and PLECS Standalone<br>▶️ Instantaneous switching<br>▶️ Variable and fixed-step operation<br>Exercise: Modeling a switched-mode power supply |
| 10:00 | **Break** |
| 10:30 | **Solver Settings**<br>▶️ Definition of stiff and non-stiff systems<br>▶️ Explicit and non-explicit solvers<br>▶️ Stability domains<br>▶️ Accuracy considerations, step size control<br>▶️ Proper handling of discontinuities, zero-crossing detection<br>Exercise: Solver accuracy and settings |
| 12:00 | **Break** |
| 12:00 | **Introduction to Thermal, Mechanical & Magnetic Modeling & Simulation**<br>▶️ Switching & conduction loss descriptions<br>▶️ Combined electrical-thermal simulation<br>▶️ Permeance Capacitance Analogy Model<br>Exercise: Thermal modeling of a buck converter |
| 14:00 | **Lunch** |
| 15:00 | **Overview of PLECS Tools and Q&A**<br>▶️ AC Sweep and Impulse Response Analysis Tools<br>▶️ Steady State Analysis Tool<br>▶️ Implementing custom components<br>Exercise: Creating a custom PV string component |
| 16:00 | **End of day** |
| Contact | Plexim GmbH, +41 44 533 51 00, info@plexim.com |
| Location | Aalborg University, Room 3.115, Pontoppidanstraede 105, 9220 Aalborg |
| Note | This workshop on October 8 addresses to anyone who has not been using PLECS before.<br><br>There will be another workshop on October 9 in the same location. |