

PLECS WORKSHOP

Advanced Modeling and Simulation of Power Electronic Systems
University Putra Malaysia, August 26th, 2013

08:30	Registration
09:00	Introduction to PLECS ▶ General use of PLECS Blockset and PLECS Standalone ▶ Instantaneous switching ▶ Variable and fixed-step operation Exercise: Modeling a switched-mode power supply
10:00	Break
10:30	Solver Settings ▶ Definition of stiff and non-stiff systems ▶ Explicit and non-explicit solvers ▶ Stability domains ▶ Accuracy considerations, step size control ▶ Proper handling of discontinuities, zero-crossing detection Exercise: Solver accuracy and settings
12:00	Lunch
13:00	Introduction to Thermal, Magnetic & Mechanical Modeling & Simulation ▶ Switching & conduction loss descriptions ▶ Combined electrical-thermal simulation ▶ Permeance Capacitance Analogy Model ▶ Mechanical Model Exercise: Thermal modeling of a buck converter
14:30	Break
15:00	Overview of PLECS Tools ▶ AC Sweep and Impulse Response Analysis Tools ▶ Steady State Analysis Tool ▶ Implementing custom components Exercise: Creating a custom PV string component
16:00	Q&A
16:30	End of day
Contact	Dr. /Ms. Nashiren Farzilah Mailah, University Putra Malaysia, nashiren@upm.edu.my Mr. Olivier Wu, Infomatic Pte. Ltd., olivier.wu@infomatic.com.sg Plexim GmbH, +41 44 533 51 00, info@plexim.com
Location	University Putra Malaysia, Faculty of Engineering, Computer Lab 2, 43400 UPM Serdang, Selangor, Darul Ehsan, Malaysia