

PLECS WORKSHOP

University of Nottingham Malaysia, 3 August, 2023

08:30	Registration
09:00	Introduction to PLECS <ul style="list-style-type: none">▶ General use of PLECS Blockset and PLECS Standalone▶ Instantaneous switching▶ Variable and fixed-step operation Exercise: Modeling a Switched-Mode Power Supply
10:30	Break
10:45	Solver Settings, Thermal Modeling & Simulation <ul style="list-style-type: none">▶ Solver types▶ Accuracy considerations, step size control▶ Switching & conduction loss descriptions▶ Combined electrical-thermal simulation Demo: Efficiency calculation of a buck converter
11:30	Overview of PLECS Tools <ul style="list-style-type: none">▶ Custom components▶ Steady state analysis tool▶ Small-signal analysis tool▶ Simulation scripting
12:00	Lunch
13:00	Overview of PLECS Code Generation for Microcontrollers <ul style="list-style-type: none">▶ PLECS Coder for Rapid Control Prototyping (RCP) Concept Exercise: Program an TI 28379 MCU with PLECS Coder (TI 28379 Launchpad) for LED blinking, PWM generation, and ADC measurement
14:30	Break
14:45	Overview of PLECS Code Generation for RT Box <ul style="list-style-type: none">▶ PLECS RT Box for Hardware-In-Loop (HIL) Concept Exercise: HIL application of a three-phase inverter in closed-loop (TI 28379 Launchpad + RT Box) Demo: SVPWM Control of a Grid-Connected Three-Level NPC Inverter as HIL application
16:00	Q&A, end of day
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