

PLECS WORKSHOP

Advanced Modeling and Simulation of Power Electronic Systems
ICAM Toulouse, 5th February 2026

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
10:30	Break
11:00	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
12:00	Lunch
13:00	Introduction to Thermal Simulation ▶ Switching & conduction loss descriptions ▶ Combined electrical-thermal simulation ▶ Determining loss values from data sheets Exercise: Thermal modeling of a buck converter
14:30	Break
15:00	Overview of PLECS Tools ▶ Custom components ▶ Steady-state and small-signal analysis ▶ State machine, simulation scripting, C-Script, and the DLL block
15:30	HIL Testbench Demonstration ▶ Automatic code generation for microcontrollers ▶ Plant code generation for the RT Box ▶ Running simulations on the CPU and FPGA
16:00	Q&A
16:15	End of day
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