

# PLECS WORKSHOP

Advanced Modeling and Simulation of Power Electronic Systems Day 2  
University of Manchester, November 12, 2015

09:00	Registration
09:15	<b>Mechanical Domain and Electrical Machine Modeling</b> <ul style="list-style-type: none"><li>▶ Simulation of electromechanical systems</li><li>▶ Inelastic collisions</li><li>▶ Electrical machine models and implementations in PLECS</li></ul> Exercise: Modeling an electric vehicle using the PLECS mechanical domain
10:30	Break
10:45	<b>Analysis Tools (New Multitone Analysis)</b> <ul style="list-style-type: none"><li>▶ Steady state analysis</li><li>▶ AC sweep and impulse response analysis</li></ul> Exercise: Control design of a flyback converter using PLECS
12:15	Lunch
13:00	<b>Simulation Scripting</b> <ul style="list-style-type: none"><li>▶ Pre- and post-process simulation results</li><li>▶ Automated simulations, parameter sweeps</li></ul>
13:30	<b>C-Code Integration</b> <ul style="list-style-type: none"><li>▶ Solver operation</li><li>▶ Sample time settings</li><li>▶ DLL Block</li></ul> Exercise: Efficient PWM generation using the PLECS C-Script block
15:15	Break
15:45	<b>Code Generation</b> <ul style="list-style-type: none"><li>▶ Basic ideas</li><li>▶ Code generation for the electrical circuit and control loop</li><li>▶ Limitations</li></ul> <b>PLECS Processor-in-the-Loop Simulation</b> <ul style="list-style-type: none"><li>▶ Introduction and demonstration</li><li>▶ Existing examples</li></ul>
16:30	Q&A
17:00	End of Day
Contact	Pulse Power & Measurement Ltd., Linda Davis, +44 1793 784 389, <a href="mailto:linda.davis@ppm.co.uk">linda.davis@ppm.co.uk</a>
Location	The University of Manchester, Sackville Street Building, Room D45a, Granby Row, M1 3BU, Manchester
Note	This workshop on November 12 addresses to anyone who already has experience with the simulation software PLECS. There will be another workshop on November 11 in the same location for beginners.

