

Tutorial 6 at MODPROD'2015 Workshop

Wolfram SystemModeler and Mathematica: Analysis and Model Design

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Bring your laptop –hands-on exercises

”SystemModelers connection to Mathematica allows you to get deeper understanding of model behavior. It allows you to analyze model equations and simulation results using all of Mathematica's features, including visualization, control systems design, model calibration, real-time simulation, and more.



This workshop is for those who are interested in a deeper understanding of how Wolfram SystemModeler, Mathematica, and Modelica work together. The course covers different ways to create models and components, visualizing simulation results, as well as simulation control. The course will consist of three parts:

1. Introduction to SystemModeler
An example-driven introduction showing how to develop models of complex systems using drag and drop and illustrate how you can simulate and analyze your models.
2. Introduction to Mathematica
This part will introduce the core technologies needed to become an adept user of Mathematica, including the Wolfram Language, the notebook interface, programming fundamentals, visualization and interactivity features, and mathematics.
3. Using SystemModeler and Mathematica together
Get a deeper understanding of model behavior using Mathematica. In this part of the workshop you will learn how to create and analyze models and simulation results with Mathematica. Learn about the link between Mathematica and SystemModeler and get an overview of the powerful Mathematica functionality relevant to modeling and analysis.

Hands-on exercises will be used throughout the workshop. Basic familiarity with Modelica is a recommended.

Note that you should bring your own laptop. It is strongly recommended that you install the software before the workshop. Downloads (Windows, Mac OSX, and Linux can be made from here):

<http://www.wolfram.com/system-modeler/trial/>.

During the installation of SystemModeler you will also be asked to download and install a C++-compiler. User's from Linköpings universitet have a Mathematica site license site license they can use rather than the trial license.”