

# Modelica Training

## Object-Oriented Modeling and Simulation of Thermal Systems

TLK Energy GmbH and TLK-Thermo GmbH offer a two-day training on object-oriented modeling and simulation of thermal systems.

The training course includes the following:

- Object-oriented and equation-based formulation of differential-algebraic equation systems for the description of thermal systems using the simulation language Modelica ([www.modelica.org](http://www.modelica.org))
- Characterization of DAE systems and solution processes such as index reduction
- Hybrid (event-oriented) modeling
- Object-oriented analysis and modeling

During the course, the participants work with the assistance of Modelica experts on the following examples and more:

- Formulation of physical balances and conservation laws
- Creation of an object-oriented model library for the simulation of refrigeration and air-conditioning systems
- Model library with electronic elements for the object-oriented description of heat transfer mechanisms

After the training course, the participants will be capable of independently creating complex Modelica libraries based on an object-oriented approach. They also receive the necessary mathematical and numerical understanding to formulate “balanced” Modelica models and to recognize and handle numerical difficulties in solving. The technical basics of simulation required for understanding complex libraries is taught.

It is preferred that the course participants bring their own laptop. The course examples, TILMedia and the visualization tool DaVE are provided for the course.

The cost of the training is € 1100 (+ VAT) payable in advance. University students as well as PhD candidates may receive a discount upon request. The training fee includes the course documentation, the above listed software, as well as lunch, drinks and snacks in the breaks.

## Modelica Training

3 March 2020, 8:30 am – 5:30 pm

4 March 2020, 8:30 am – 4:30 pm

**Free Introduction to TIL:**

4 March 2020, 4:30 pm – 6:00 pm

**Place:**

**TLK Energy Office Building**

**Heinrichsallee 41**

**52062 Aachen**

**Course Fee: € 1100 (+ VAT)**

We will do our best to meet your specific needs. In the case that you are interested in the training and would like to learn more about the content of the training course, do not hesitate to contact us.

## TLK Energy GmbH

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