

# 12<sup>th</sup> INTERNATIONAL **MODELICA** CONFERENCE

May 15–17, 2017  
Clarion Congress Hotel Prague  
Czech Republic

A conference about **Model Based Systems Engineering** with a focus on the **Modelica** equation-based **modeling language**, Modelica **model libraries**, Modelica-based **simulation tools**, the **FMI** (Functional Mockup Interface) model exchange format as well as **industrial use cases** and **scientific applications**.

*More information:* [www.modelica.org](http://www.modelica.org)



# The 12th International Modelica Conference

will be held at **Clarion Congress Hotel Prague, Czech Republic, May 15–17, 2017.**

It is organized by The Czech Society for Cybernetics and Informatics (CSKI) and the Modelica Association.

## ABOUT THE CONFERENCE

The Modelica Conference is the main event for users, library developers, tool vendors and language designers to share their knowledge and learn about the latest scientific and industrial progress related to Modelica and to the Functional Mockup Interface. The program will cover modeling of complex physical and cyber-physical systems, as well as tools, for a wide range of research and industrial applications. In addition to paper presentations and poster sessions, the conference features several Modelica tutorials for beginners and advanced users, as well as vendor presentations, and an exhibition. The previous Modelica conference in 2015 was attended by more than 400 participants from all over the world, and we would like to welcome even more participants to this conference.

## CONFERENCE VENUE

The conference will take place at Clarion Congress Hotel Prague located in a modern part of Prague – Vysočany, only 11 minutes away by metro from the city center.

### Venue Address:

Clarion Congress Hotel Prague \*\*\*\*  
Freyova 33, 190 00 Prague 9 - Vysočany  
Czech Republic



## SCOPE OF THE CONFERENCE

Modelica is a freely available, equation-based, object-oriented language for convenient and efficient modeling of complex, multidomain cyber-physical systems described by ordinary differential, difference and algebraic equations.

The Modelica language and the companion Modelica Standard Library have been utilized in demanding industrial applications, including full vehicle dynamics, power systems, robotics, hardware-in-the-loop simulations and embedded control systems.

The Functional Mockup Interface (FMI) is an open standard for the tool-independent exchange of models and for co-simulation. It is supported by many Modelica and non-Modelica tools and is the key to utilizing Modelica models in non-Modelica environments.

The Modelica conference will bring together people using Modelica and/or FMI for modeling, simulation, and control applications, Modelica language designers, Modelica and/or FMI tool vendors and Modelica library developers. The Modelica Conference provide Modelica users the opportunity to stay informed about the latest language, library, and tool

developments, and to get in touch with people working on similar modeling problems. The conference will cover topics such as the following:

- Multi-engineering modeling and simulation with free and commercial Modelica libraries (mechanics, electrical, hydraulics, thermal, fluid, media, chemical, building, automotive, aircraft, ...)
- Automotive applications
- Thermodynamic and energy systems applications
- Mechatronics and robotics applications
- Medicine and biology applications
- Other industrial applications, such as electric drives, power systems, aerospace, etc.
- Large-scale system modelling
- Real-time and hardware-in-the-loop simulation
- Simulation and code generation for embedded control systems
- Simulation acceleration by use of many CPU cores or GPU cores
- Applications of Modelica for optimization and optimal control
- Modelica modeling, simulation and design tools
- Symbolic algorithms and numerical methods for model transformation and simulation
- Discrete modeling techniques – FEM, CFD, DEM (Discrete Element Method), ...
- New features of the Modelica language and of FMI
- Experimental language designs and implementations related to Modelica
- Modelica in other application areas (mathematical programming, databases etc.)
- Modelica for teaching and education
- FMI in Modelica and non-Modelica applications and tools



## CALL FOR PAPERS

**The participants can submit papers for full presentation or for poster presentation.**

New free Modelica libraries can also be introduced to the public. Further information about the submission and application process and the submission templates is available at: [www.modelica.org](http://www.modelica.org).

## EXHIBITION AND OTHER CALLS

A commercial exhibition will be arranged in conjunction to the conference. The commercial exhibition will be integrated with the session halls, poster exhibition and the catering services and will thus be an excellent exhibition window towards the expected 400-500 delegates. The exhibition will be open during conference hours.

## IMPORTANT DATES

<b>December 30, 2016</b>	Paper submission, Library submission, Tutorial/Workshops application, Vendor presentation, and Exhibitor application
<b>February 10, 2017</b>	Notification of paper acceptance
<b>March 8, 2017</b>	Early registration deadline
<b>April 1, 2017</b>	Submission of final papers and libraries
<b>May 8, 2017</b>	Late registration deadline

## PRELIMINARY OUTLINE

<b>Monday, May 15, 2017</b>	
13:00 - 16:30	Tutorials
17:00 - 19:15	Vendor presentations
19:30	Reception
<b>Tuesday, May 16, 2017</b>	
8:30 - 18:30	Conference and exhibition
19:30	Conference dinner
<b>Wednesday, May 17, 2017</b>	
8:30 - 16:30	Conference and exhibition



## CONFERENCE BOARD

### Doc. MUDr. Jiří Kofránek, CSc. (Conference Chair)

Charles University in Prague, Czech Republic

### Prof. Francesco Casella (Program Chair)

Politecnico di Milano, Italy

### Prof. Peter Fritzson

Linköping University, Sweden

### Prof. Martin Otter

DLR, Germany

### Dr. Hilding Elmqvist

Mogram, Lund, Sweden

### Dr. Michael Tiller

Xogeny, Michigan, USA

## LOCAL ORGANIZERS

### Mgr. Marek Mateják Ph.D.

Charles University in Prague, Czech Republic

### Ing. Filip Ježek

Czech Technical University, Czech Republic

### Ing. Milena Zeithamlová

Action M Agency, Czech Republic

### Veronika Sýkorová, DiS.

Creative Connections s.r.o., Czech Republic

## SPECIAL JOURNAL ISSUE

It is planned that the best scored 10 % of the reviewed papers are invited to be submitted in an improved and extended form for a special issue of an open access, ISI-referenced journal.

## ORGANIZATION AND CONTACT

For more information visit: [www.modelica.org](http://www.modelica.org)

For any questions, please send an email to: [modelica2017@modelica.org](mailto:modelica2017@modelica.org)