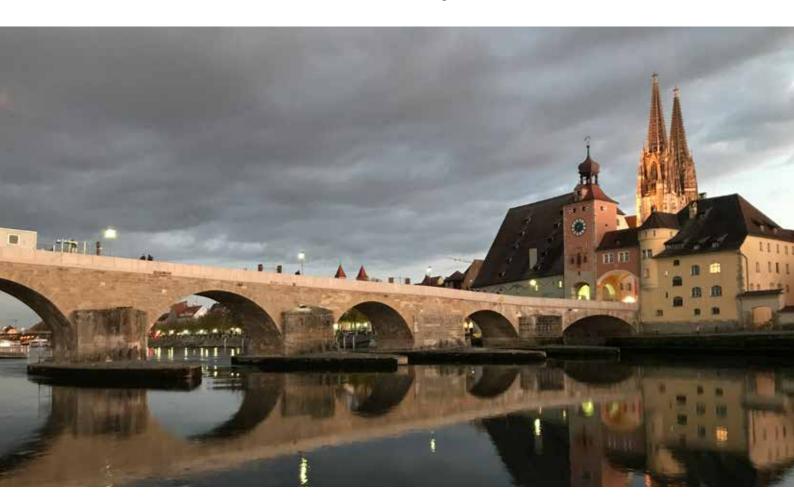# *13*th INTERNATIONAL MODELICA CONFERENCE

March 4–6, 2019
Ostbayerische Technische
Hochschule Regensburg, Germany

A conference about Model Based Systems Engineering with 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.

More information: www.modelica.org/events/modelica2019

OTH OSTBAYERISCHE TECHNISCHE HOCHSCHULE REGENSBURG

MODELICA

The 13th International Modelica Conference

will be held at Ostbayerische Technische Hochschule (Eastbavarian Technical University of Applied Sciences) Regensburg, Germany, March 4-6, 2019. It is organized by OTH Regensburg 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 2017 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 OTH Regensburg, in walking distance from the main station and the city center.
Venue Address: OTH Regensburg
93053 Regensburg, Seybothstr. 2, Germany

SCOPE OF THE CONFERENCE

Modelica is a freely available, equation-based, object-oriented language for convenient and effcient 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 Conferen ce 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

Participants are encouraged to submit full papers for oral presentation or for poster presentation. New free Modelica libraries may also be introduced to the public. Further information about the submission and application process and the submission templates is available at: www.modelica.org/events/modelica2019.

EXHIBITION AND OTHER CALLS

A commercial exhibition will be arranged in conjuncti on 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

November 19, 2018 (extended deadline), Paper submission, Library submission, Tutorial/Workshops application, Vendor presentation, and Exhibitor application
December 17, 2018, Notification of paper acceptance
January 21, 2019, (extended) early registration deadline
January 21, 2019 (extended deadline), Submission of final papers and libraries
February 25, 2019, Late registration deadline

PRELIMINARY OUTLINE

Monday, March 4, 2019
13:00 - 16:30   Tutorials
17:00 - 19:15   Vendor presentations
19:30   Reception

Tuesday, March 5, 2019
8:30 - 18:30   Conference and exhibition
19:30   Conference dinner

Wednesday, March 6, 2019
8:30 - 16:30   Conference and exhibition

CONFERENCE BOARD

- Prof. Anton Haumer (Conference Chair), OTH Regensburg, Germany
- Prof. Peter Fritzson, Linköping University, Sweden
- Prof. Martin Otter, DLR, Germany
- Dr. Hilding Elmqvist, Mogram, Sweden
- Dr. Michael Tiller, Xogeny, USA
- Prof. Francesco Casella, Politecnico di Milano, Italy

LOCAL ORGANIZERS

- Prof. Anton Haumer (Conference Chair), OTH Regensburg, Germany
- Sandra Schäffer, M.A., OTH Regensburg
- Verena Hämmerle, M.A., OTH Regensburg
- Lara Helmig, DONAUEVENTS, Wenzenbach, Germany

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.