



### Preliminary Program

Tuesday February 3

08.30-09.00

outside room A2

Registration and coffee

09.00-10.00

Tutorials in parallel

- **Tutorial 1.** Prof. Peter Fritzson, Linköping University.  
*"Introduction to Object Oriented Modeling, Simulation, Debugging and Dynamic Optimization with Modelica using OpenModelica"*
- **Tutorial 2.** Robert Braun, Linköping University.  
*"Functional Mockup Interface for Composite Modeling, Co-simulation and Model Exchange"*
- **Tutorial 3.** John Tinnerholm, Linköping University.  
*"Simulation and Interoperability using OMJL the OpenModelica system in Julia"*

10.00-10.30

outside room A2

Coffee break and poster exhibition

10.30-12.00

Tutorials continued

12.00-13.10

Kårallen

Lunch

13.10-15.30

room A2

Plenary Session 1. Chair. To be announced.

- **Welcome by the MODPROD Director.** Niclas Fock
- **Information by the organizers.** Robert Braun
- **Keynote.** Prof. Benoit Combemale, INRIA.  
*"There Is Only One Time in Systems Engineering! Towards a Continuous (model-based) Engineering"*
- **Keynote.** Prof. Ramin Karim, Luleå University of Technology.  
*"AI Factory for System Lifecycle Management - Concepts and Applications"*

15.30-16.00

outside room A2

Coffee break and poster exhibition

16.00-17.00

room A2

Parallel Session 2a. Model-based Engineering. Chair. To be announced.

- Jasamin Akbari, Björn Nagel and Christopher Jouannet.  
*"The Challenge Of System-of-systems: From Defining the Problem to Shaping the Solution Architecture"*
- Torvald Mårtensson.  
*"Testing and Test Environments for Large Scale Cyber Physical Systems: State of the Art and Emerging Challenges"*
- Máté Földiák, José Antonio Hernández López, Lena Buffoni and Dániel Varró.  
*"Text2MQL: Fine-tuning Open-source Language Models for Model Query Languages Using ChatGPT"*

16.00-17.00

room ACAS

Parallel Session 2b. Modelling and Simulation. Chair. To be announced.

- Ludvig Knöös Franzén.  
*"The COLOSSUS Methodology for Holistic System-of-Systems Engineering"*
- Robert Braun, Magnus Landberg and Cezar-Victor Boruga.  
*"Taking the Simulation Onboard: Power-in-the-loop Simulation of HILA Multi-Rod in Unmanned Aircraft"*
- Arne Speerforck & Jan Westphal.  
*"A tool-chain for the development and simulation of large-scale district heating network models"*

17.15

Technical visit. Vehicular Systems Laboratory

19.00

Universitetsklubben

Conference Dinner



Wednesday February 4

08.00-08.30

outside room A2

Registration and coffee

08.30-10.00

room A2

Plenary Session 4. Chair. Daniel Varro

- **Keynote.** Dr. Björn Nagel, DLR/Linköping University.  
*"Collaborative Aircraft Design Engineering for Future Technologies"*
- **Presentation of Research at the MODPROD center.** Lena Buffoni, Niclas Fock, Daniel Varro, Adrian Pop, and Petter Krus.

10.00-10.30

outside room A2

Coffee break and poster session

10.30-11.50

room A2

Parallel Session 5a. Standards & Languages. Chair. To be announced.

- Smit Saparia, Viktor Larsson, Bo Liu, Henrik Lönn and Svetla Käck.  
*"Utilizing open standards - an automotive use case example simulation"*
- Fredrik Bagge Karlsson.  
*"Analysis Points in Acausal Modeling Languages"*
- Robert Hällqvist & Kristian Amadori.  
*"Using FMI/SSP/SysML in an International Large-Scale Industrial Context"*
- Axel Matstoms.  
*"On the Modeling of Aircraft Fuel Systems using the ThermofluidStream Library"*

10.30-11.50

room ACAS

Parallel Session 5b. Model-based Applications. Chair. To be announced.

- Johannes Emilsson, Anders Bergqvist, Fredrik Henningsson and Manikanta Venkatesh.  
*"VSim at Volvo Cars: Architecture and Evolution from Simulink to Modelica"*
- Katerina Hofmann, Christian Hesse, Mara Fuchs, Jörn Biedermann and Björn Nagel.  
*"Cabin-centric aircraft development approach. exploring possibilities and potentials"*
- Dominik Frey, Ulf Kargén and Dániel Varró.  
*"Assessing Scene Generation Techniques for Testing COLREGS-Compliance of Autonomous Surface Vehicles"*
- Lars Eriksson.  
*"Time Effective Testing and Compact Modeling of Electrochemical Impedance Spectroscopy (EIS) for Lithium Ion Batteries"*

11.50-13.00

Kårallen

Lunch

13.00-14.00

room A2

Parallel Session 6a. Artificial Intelligence and Machine Learning. Chair. To be announced.

- Masoud Sadrnezhad, José Antonio Hernández López, Torvald Mårtensson and Dániel Varró.  
*"Generative AI in Simulation-Based Test Environments for Large-Scale Cyber-Physical Systems. An Industrial Study"*
- Petter Krus.  
*"Text to model using AI"*
- Vinicius Marini.  
*"GenAI Assistance to Model Synthesis with Prompt Modularization"*

13.00-14.00

room A2

Parallel Session 6b. Model-based Engineering. Chair. To be announced.

- Reno Filla.  
*"Adding weather data to analyses of vehicle systems"*
- Amin Bajand.  
*"Towards a standard for Uncertainty Quantification in Modelica and FMI"*
- Matthias Schaefer and Leo Gall.  
*"ReSim - Multitool regression testing for library development"*

14.00-14.30

outside room A2

Coffee break

14.30-15.00

room A2

Panel Discussion