



### 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"*
- Axel Matstoms.  
*"On the Modeling of Aircraft Fuel Systems using the ThermofluidStream Library"*

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
<b>Registration and coffee</b>	
08.30-10.00	room A2
<b>Plenary Session 4.</b> Chair. Daniel Varro	
<ul style="list-style-type: none"> <li><b>Keynote.</b> Dr. Björn Nagel, DLR/Linköping University. <i>"Collaborative Aircraft Design Engineering for Future Technologies"</i></li> <li><b>Presentation of Research at the MODPROD center.</b> Lena Buffoni, Niclas Fock, Daniel Varro, Adrian Pop, and Petter Krus.</li> </ul>	
10.00-10.30	outside room A2
<b>Coffee break and poster session</b>	
10.30-11.50	room A2
<b>Parallel Session 5a.</b> Standards & Languages. Chair. To be announced.	
<ul style="list-style-type: none"> <li>Smit Saparia, Viktor Larsson, Bo Liu, Henrik Lönn and Svetla Käck. <i>"Utilizing open standards - an automotive use case example simulation"</i></li> <li>Fredrik Bagge Karlsson. <i>"Analysis Points in Acausal Modeling Languages"</i></li> <li>Robert Hällqvist &amp; Kristian Amadori. <i>"Using FMI/SSP/SysML in an International Large-Scale Industrial Context"</i></li> <li>Amin Bajand, L. Viktor Larsson, Lena Buffoni, et al. <i>"Towards a standard for Uncertainty Quantification in Modelica and FMI"</i></li> </ul>	
10.30-11.50	room ACAS
<b>Parallel Session 5b.</b> Model-based Applications. Chair. To be announced.	
<ul style="list-style-type: none"> <li>Johannes Emilsson, Anders Bergqvist, Fredrik Henningsson and Manikanta Venkatesh. <i>"VSim at Volvo Cars: Architecture and Evolution from Simulink to Modelica"</i></li> <li>Katerina Hofmann, Christian Hesse, Mara Fuchs, Jörn Biedermann and Björn Nagel. <i>"Cabin-centric aircraft development approach. exploring possibilities and potentials"</i></li> <li>Dominik Frey, Ulf Kargén and Dániel Varró. <i>"Assessing Scene Generation Techniques for Testing COLREGS-Compliance of Autonomous Surface Vehicles"</i></li> <li>Lars Eriksson. <i>"Time Effective Testing and Compact Modeling of Electrochemical Impedance Spectroscopy (EIS) for Lithium Ion Batteries"</i></li> </ul>	
11.50-13.00	Kårallen
<b>Lunch</b>	
13.00-14.00	room A2
<b>Parallel Session 6a.</b> Artificial Intelligence and Machine Learning. Chair. To be announced.	
<ul style="list-style-type: none"> <li>Petter Krus. <i>"Text to model using AI"</i></li> <li>Masoud Sadrnezhaad, José Antonio Hernández López, Torvald Mårtensson and Dániel Varró. <i>"Generative AI in Simulation-Based Test Environments for Large-Scale Cyber-Physical Systems. An Industrial Study"</i></li> <li>Vinicius Marini. <i>"GenAI Assistance to Model Synthesis with Prompt Modularization"</i></li> </ul>	
13.00-14.00	room A2
<b>Parallel Session 6b.</b> Model-based Engineering. Chair. To be announced.	
<ul style="list-style-type: none"> <li>Máté Földiák, José Antonio Hernández López, Lena Buffoni and Dániel Varró. <i>"Text2MQL: Fine-tuning Open-source Language Models for Model Query Languages Using ChatGPT"</i></li> <li>Reno Filla. <i>"Adding weather data to analyses of vehicle systems"</i></li> <li>Matthias Schaefer and Leo Gall. <i>"ReSim - Multitool regression testing for library development"</i></li> </ul>	
14.00-14.30	outside room A2
<b>Coffee break</b>	
14.30-15.00	room A2
<b>Panel Discussion</b>	