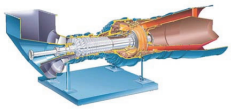
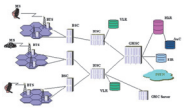





Final Program

8th MODPROD Workshop on Model-Based Product Development

Linköping University – www.modprod.liu.se – February 4-5, 2014

Organizers: Peter Fritzson, Petter Krus, Kristian Sandahl

Note: public versions of the presentations will be put on-line on the web

MODPROD Program Tuesday February 4, Tutorials and Workshop

08.30-09.00 **Registration and coffee** outside room A2, in Building A, Linköping University

09.00-10.45 **Tutorials in Parallel, Length 3:15h**

Tutorial 1: Peter Fritzson, Linköping University. "*Introduction to Object Oriented Modeling and Simulation with Modelica using OpenModelica".* Hands-on Exercises, bring your laptop.

Tutorial 2: Wladimir Schamai**,** EADS, "*Model-based Development using ModelicaML Value Bindings for Model Composition and Requirements Traceability*", hands-on exercises, bring your laptop.

Tutorial 3: Dirk Zimmer, German Aerospace Research Center, "*Modeling and Simulation with the Planar Mechanics Modelica Library*". Hands-on Exercises, bring your laptop.

Tutorial 4: Petter Krus, Linköping University, "*System simulation with HOPSAN NG*". Hands-on Exercises, bring your laptop.

Tutorial 5: Martin Sjölund and Adeel Asghar, Linköping University; Vitalij Ruge, Lennart Ochel, Willi Braun, and Bernhard Bachmann, FH Bielefeld "*Debugging Equation-Based Modelica Models; Dynamic Optimization with OpenModelica*". Hands-on Exercises, bring your laptop.

10.45-11.00 **Coffee break outside room A2**

11.00-12.30 **Tutorials continued**, same rooms as above

12.30-13.30 **Lunch at Kårallen, Linköping University**

13.30-15.00 **Plenary Session 1, MODPROD Introduction,** room: A2, Session Chair: Peter Fritzson

13.30-14.20 Amir Rashid, Royal Institute of Technology, Sweden, *"Circular Business Models - Designing for Re-Manufacturing in Sustainable Manufacturing Systems*

14.20-15.00 Peter Fritzson and Petter Krus, Linköping University, Sweden, "*Presentation of Research at the Centre for Model based Product Development, MODPROD*"

15.00-15.50 **Coffee break + Poster Session and exhibition outside room A2, see poster presentation program**

15.50-17.15 **Session 2a, Sustainable Systems Engineering,** room A2, Session Chair: Kristian Sandahl

Stefan Anderberg, Linköping University, Sweden, "*Sustainability Challenges for Product Development*"

Peter Fritzson, Linköping University, Sweden "*World Simulation with Modelica and Implications for Sustainable Product Development*"

Roland Samlaus and Philipp Thomas, Fraunhofer IWES, "*Aero-servo-hydro-elastic Model Development for Wind Turbines with OneModelica*"

15.50-17.30 **Session 2b, Model-Based Engineering,** room ACAS, Session Chair: Petter Krus

Nils Menager, Niklas Worschech, Lars Mikelsons, Bosch-Rexroth AG, Germany "*A Tool Chain for Rapid Control Prototyping using Rexroth Controllers and Open Source Software*"

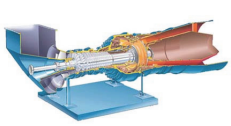
Atiyah Elsheikh, Austrian Institute of Technology (AIT), Austria, "*Derivative-based Hybrid Heuristics for Continuous-time Simulation Optimization*"

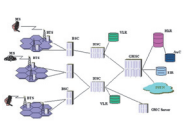
Lars Eriksson, Linköping University, Sweden, "*Model-based Development and Optimization of Engine Models*"

Gert Johansson, Combitech AB, Sweden, "*ArCon a Candidate for PolarSys Tool Suite*"

17.40 ***Bus to City Center***

19.00 ***Workshop Dinner***






MODPROD Program for Wednesday February 5

07.50-08.15 Bus passing main hotels, arriving Linköping University at 08.15

08.00-08.30 **Registration** outside room A2, Building A, Linköping university

08.30-08.40 **Workshop 2nd Day, Introduction, Plenary Session (Chair: Peter Fritzson),** room A2

08.40-09.40 **Keynote**, Johan de Kleer, Principal Scientist, Xerox Parc, California, USA, "*Using Modelica for Early Stage Design, Reliability Analysis and Fault Diagnosis*"

09.40-10.40 **Keynote**, Steve Mulski, Director Wind Energy Solutions, SIMPACK AG, Germany, "*Model-based Development of Wind Turbines*"

10.40-11.30 **Coffee, Posters and Exhibition outside room A2, see separate poster presentation program**

11.30-12.30 **Parallel Session 3a, Model-Based Software and Systems Engineering.** Chair: Kristian Sandahl, room A2

Simon Danielsson, KnowIT AB, Sweden "*Model-based Development for Large-Scale Embedded Control Software Projects*"

Håkan Kården, EuroStep, Sweden, "*Multi-Disciplinary Collaborative Systems Engineering*"

11.30-12.20 **Parallel Session 3b, Model-Based Engineering.** Session Chair: Petter Krus, room ACAS

Mattias Nyberg, Scania AB, Sweden, "*Architecture Modelling of Automotive Embedded Systems and SW utilizing Architecture Recovery*"

Claude Lacoursiere and Stefan Hedman, University of Umeå; Adeel Asghar, Linköping University, Sweden "*Strongly Coupled Distributed Simulations with FMI over TCP"*

12.20-13.30 **Lunch at Kårallen, Linköping University. Posters and Exhibition outside room A2**

13.30-14.30 **Plenary Session 4, Model-Based Engineering and Applications.** Session Chair: Petter Krus, room A2

Leon Starr, Model Integration, "*xtUML, Simulink and Modelica: How to use them together*"

Akira Ohata, Toyota Motor Corporation, Japan, "*A Desired Plant Modeling Environment for Automotive Control*"

14.30-15.15 **Coffee, Posters and Exhibition outside room A2**

15.15-16.30 **Parallel Session 5a, Model-Based Engineering.** Session Chair: Petter Krus, room:A2

Nguyen Thuy, EDF – Electricité du France, France "*Modelling & Simulation in Systems Lifecycle, from Early Conception to Operation and Modification*"

Oliver Koch, Technical University of Dresden, Germany, "*Aspects of System Integration in the Development of an Energy Efficient Power Management for a Wheel Loader*"

Wladimir Schamai and Philipp Helle, Airbus Group Innovations, Germany, "*Comparison of State Machines in UML2 and Modelica 3.3*"

15.15-16.30 **Parallel Session 5b, Model-Based Design and Development.** Session Chair: Kristian Sandahl, room ACAS

Luigi Vanfretti, KTH – Royal Institute of Technology, Sweden, "*Experiences on Power System Model Identification using Modelica and FMI Technologies*"

Dag Fritzson, SKF, Sweden "*Advances in Transient Multibody Simulation - SKF BEAST*"

Martin Hochwallner and Stefan Fragner, Linz Center of Mechatronics GmbH, Austria, *"Experience in Model Based Design with the Tool X2C in Controller Design in a Mechatronic Product Development Environment"*

16.30-16.40 **Break**

16.40-17.10 **Panel Discussion, (plenary session),** room A2