

Agenda Tuesday, November 4, 2014

09:00 Welcome and Introduction | Dr. Andreas Uhlig, ITI
09:40 KEYNOTE: News and Features around the Oncoming SimulationX 3.7 | Andreas Abel, ITI

BREAK

AUTOMOTIVE

MINING & HEAVY MACHINERY

SIMULATIONX IN EDUCATION & TRAINING

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| 11:00 | Automated Car Lock Development in CATIA and SimulationX Philipp Heinze, P+Z | Automated Model Generation for Full-Vehicle Simulation of Mobile Machines Manuel Bös, Liebherr | Applying Simulation in the Subject of Drive Engineering Prof. Peter Neumann, Hochschule Bochum |
| 11:30 | Temperature-Sensitive Drive Train Components – System Simulation and Analysis in the Frequency Domain Uwe Schreiber, ITI | Safety Concepts for Container Crane Hoists Prof. Dr. Stefan Vöth, TFH Georg Agricola | Inclusion of SimulationX in Lectures Björn Fath, FH Karlsruhe |
| 12:00 | Implementation of a Motorcycle Powertrain in the FZG Simulation Tool MotorcycleMaker Thomas Hengesbach, BMW | Development of a Driver Cabin Levelling System for Mining Equipment Paul Nitschke, Romonta | Methods for Efficient Use of Simulation in Logistics Engineering Prof. Christian Landschützer, TU Graz |

LUNCH

13:30

POSTER SESSION

AUTOMOTIVE

FLUID POWER TECHNOLOGY

GREEN BUILDING & POWER GENERATION

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| 14:00 | Design and Energy Efficiency Analysis of Compressed Air Systems through Dynamic Simulation Daimler ITI | Modeling Liquid Flow and Substance Transport in Micro-Fluidic Devices Mathias Busek, Fraunhofer IWS | Model-Based Design of Control Strategies for a Sophisticated Building Energy System in a School and Sports Complex Monika Wicke, EA Systems |
| 14:30 | System Design of a Highly Dynamic Driving Simulator by Means of a FMU Co-Simulation Thomas Tüschen, TU Dresden (IAD) | Asset Integrity Using SimulationX for Non-Intrusive 'Brown Field' System Evaluation Kjell Skar, Agito | Modelling of a Liquid Hydrogen Moderator Cooling Circuit for a High Power Neutron Spallation Source Marcel Klaus, TU Dresden (IET) |
| 15:00 | The Simulation of Vehicle Dynamics to Develop "Fuel Eco" Lubricants Vincent Lacour, Total | Simulation of Energy Recovery System in Hydraulic Excavator Prof. Andrzej Sobczyk, Cracow University | Arrhenius-Equation Based Approach for Modelling Lithium-Ion Battery Aging Effects Dominik Dvorak, AIT |
| 15:30 | Simulation of an Infinitely Variable Transmission Mahesh Sardesai, Hofer pdc | | Development and Verification of a Three-Dimensional and Real-Time Thermoelectric Model of a Lithium-Iron-Phosphate Battery Abdul Waheed, FH Gelsenkirchen |

BREAK

DRIVE ENGINEERING

FLUID POWER TECHNOLOGY

MECHATRONICS & AUTOMATION

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|-------|--|--|--|
| 16:30 | Use of SimulationX in the Development of an Active Heave Compensated Drawworks Dr. Roman Jansen, MHWirth | Further Development of Valve Technology in Vehicle's Hydraulic Roll Control Systems Werner Döhla, Rausch & Pausch | Auxiliary Consumption Optimization of an Electric Locomotive Alexander Heghmanns, TU Dresden (IFKU) |
| 17:00 | Simulation and Sensitivity Study of a Self-Resetting Actuator Christian Bresser, Huf Hülsbeck & Fürst | Development of a New Pressure-Compensator-Valve for Hydrostatic-Hydrodynamic Journal Bearings Dr. Dirk Wehner, Hydrive Engineering | Neural-Net-Based Nonlinear Friction Compensation Control for High Dynamics and Precision Julius Hudec, Rausch & Pausch |
| 17:30 | Torsional Vibration Analysis and Testbench Studies as Part of the Design Process of Wind Turbines Stefan Schemmert, Eickhoff Antriebstechnik | Simulation of Air Spring Dampers (ASD) for Cabin Suspension Susann Lieske, ContiTech Luftfedersysteme | Dynamic Behavior of Mechatronic Drive Trains Andreas Bubert, RWTH Aachen |

EVENING EVENT

Agenda Wednesday, November 5, 2014

- 09:00 **KEYNOTE: Continuous Innovation – Close the Gap Between Systems Level Modeling and Physical Simulation** | Amit Fisher, IBM
- 09:40 **Security Aspects of Cloud Computing – Trusted Cloud in Cloud4E** | Alexander Ditter, FAU Nürnberg
- 10:10 **SimulationX Goes Online – A Web Platform for Cloud Based Simulation Services** | Thomas Neidhold, ITI

BREAK

SIMULATION IN THE CLOUD

- 11:00 **Cloud4E – A Flexible and Scalable Platform for Cloud-Based Simulation**
Maik Srba, GWVG
- 11:30 **Ensemble Simulations and Optimization Studies in the Cloud – Application Examples for System Design**
André Schneider, Fraunhofer IIS EAS
- 12:00 **Cloud-based FEM Simulations – an Opportunity for SME**
Simon Schmitz, ERAS

TOOL & MODEL INTEGRATION, POST-PROCESSING

- Data Management with PLM – An Addin for SimulationX**
Michael Pfenning, xPLM
- Optimization of Testbenches with Virtual Methods**
Andreas Schelenz, IMA
- Model Based Systems Engineering Using SimulationX and Model-Center**
Sven Kleiner, em AG

LUNCH

OPTIMIZATION

- 13:30 **Validation of a Simulation Model by Means of Effective Calibration with Measurement Data**
Stefan Marth, Dynardo
- 14:00 **Towards Model Based Optimization of Building Control Systems**
Dr. Christoph Clauß, Fraunhofer IIS EAS
- 14:30 **Probabilistic Dynamic-Simulation in SimulationX with OptiY on the example of a DC Motor**
Dr. The-Quan Pham, OptiY

TOOL & MODEL INTEGRATION, POST-PROCESSING

- Semi-Automatic Compliance Audits for Implementations of FMI for Co-Simulation**
Jacob Lorenz, BMW
- VEOS for Integrated Toolchains in Virtual Development**
Dr. Karsten Krügel, dSPACE
- Exploiting the Potential of the Functional Mockup Interface: From Generating FMI-Compliant Control Components towards Embedded Systems Simulation**
Dr. Corina Mitrohin, ETAS

BREAK

HARDWARE-IN-THE-LOOP & REAL-TIME

- 15:30 **Real-Time Simulation for the Vehicle Dynamics of Tractors with Multi-Axle Trailers**
Andreas Bogala, FH Köln
- 16:00 **Process Efficient Real-Time Simulation for Functional Tests of Drive and Control Systems**
Oliver Koch, TU Dresden (IFD)
- 16:30 **Simulation of the Dynamics of Vehicle Movements in the Context of Dresden Measuring Tram Project**
Stephan Schultze, TU Dresden (IBB)

EFFICIENT ALGORITHMS & PROCESSES

- Phenomenological Lumped Parameter Models of Solid State Actuators Based on an Extended Tellinen Hysteresis Modelling Approach**
Johannes Ziske, TU Dresden (IFTE)
- Requirement Modeling and Fault Tree Analysis for Modelica**
Armin Troy, ITI
- What happens before Simulation starts or why it is not possible to simulate directly?**
Gerd Kurzbach, ITI

17:00

FINAL DISCUSSION & BEST PAPER AWARD



On **Monday, November 3, 2014**, we will hold our much sought-after **Tutorial Day** for SimulationX users with interactive workshops about new software features and practical guides for an efficient workflow with SimulationX.

More information can be found at symposium.itisim.com/tutorial-day.