

Preliminary Program

OpenModelica Annual Workshop January 31, 2022

Supported by
Open Source Modelica Consortium (OSMC) and Linköping University (LIU)

08.45-09.00 Web-meeting opens

09.00-09.10 Martin Sjölund and Adrian Pop (Linköping University and RISE Linköping, Sweden)

- Workshop opening

Session Chair: Bernhard Bachmann

09.10-09.30 Francesco Casella, Director of OSMC (Politecnico di Milano, Italy)

- Status and Directions of OpenModelica

09.35-10.00 Karim Abdelhak and Bernhard Bachmann (University of Applied Sciences Bielefeld, Germany)

- Status of the New Backend

10.00-10.25 John Tinnerholm, Adrian Pop (Linköping University and RISE Linköping, Sweden)

- Language extensions to simulate Variable Structured Systems within a standard-compliant Modelica Compiler

10.25-10.50 Lluc Figueras Llerins, Vinicius Lacerda, Eduardo Prieto-Araujo, Adrien Guironnet and Quentin Cossart (CITCEA-UPC Barcelona, Spain and RTE Réseau de Transport d'Electricité, Paris, France)

- Modelling and Simulation of Power Systems with Grid-Connected Converters in OpenModelica

10.50-11.15 Coffee break

Session Chair: Lena Buffoni

11.15-11.40 Rüdiger Franke (ABB AG, Germany)

- Use of OpenModelica in ABB OPTIMAX for model-based control and optimization of sustainable energy systems

11.40-12.05 Peter Fritzson (Linköping University and OSMC, Sweden)

- A Modelica library and scenarios for Sweden's conversion from fossil powered to electric transportation

12.05-12.30 Sören Kai Möller, Bernhard Bachmann and Rüdiger Franke (University of Applied Sciences Bielefeld and ABB AG, Germany)

- Implementation of a Modelica library for modeling and simulation with neural networks in OpenModelica

12.30-13.30 Lunch break

Session Chair: Francesco Casella

13.30-13.55 Adrian Pop, OSMC Technical Coordinator (Linköping University and RISE, Sweden)

- Current Status and Technical Overview of OpenModelica and its Development Environment

13.55-14.20 Andreas Heuermann, Philip Hannebohm and Bernhard Bachmann (University of Applied Sciences Bielefeld, Germany)

- Replacing Strong Components with Artificial Neural Network Surrogates in an Open-Source Modelica Compiler

14.20-14.45 Digvijay Singh and Arunkumar Palanisamy (Indian Institute of Technology Bombay, India and RISE, Sweden)

- Interoperability between R and OpenModelica

14.45-15.05 Coffee break

Session Chair: Lennart Ochel

15.05-15.30 Jan Peter Axelsson (Vascaia AB, Sweden)

- Design aspects of FMU-explore a Python module to complement PyFMI

15.30-15.55 Martin Sjölund (Linköping University, Sweden)

- The OpenModelica package manager

15.55-16.15 Peter Fritzson (Linköping University and OSMC, Sweden)

- A Modelica library and scenarios for thermal and electric solar energy and storage for cities and buildings

16.20-16.50 Panel Discussion. Chair: Adrian Pop

- Future Directions of OpenModelica

16.50-17.00 Coffee Break

17.00-18.00 Open Source Modelica Consortium Annual Statutory Meeting