Tutorial 3 at MODPROD 2015 Workshop
Fault Modeling and Fault Traceability

by

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Bring your laptop –hands-on exercises

The development of modern large-scale systems, the verification of important non-functional requirements such as reliability and safety is often postponed to the last stages of the development process with a high risk of having to revise even basic design choices and with a consequent increase in both completion time and development costs.

The adoption of simulation techniques and related software tools would increase efficiently their analysis. In the context of this tutorial we will present a tool chain for integrated modelling and system verification, based on Modelica and Figaro.

Figaro is a reliability modeling language. Instead of having several different reliability models, Figaro was developed by EDF (Électricité de France) developed Figaro to be a general representation formalism. The toolchain presented in the tutorial is based on the OpenModelica extensions for Figaro.

The tutorial will provide both theoretical background and have hands on exercises and examples and will require a Windows platform.

Short Biographies

Dr. Lena Buffoni is a researcher at PELAB at the University of Linköping since September 2011. Her main research interests are language design, modelling, software composition, compiler construction, synchronous languages and real-time systems. She has received her PhD at the University of Pierre and Marie Curie (Paris VI) in 2010.

Professor Marc Bouissou is a senior engineer of EDF R&D, with a long experience in the reliability engineering field. He received a degree of the "Ecole Nationale Supérieure des Mines de Paris" engineering school in 1980, and qualified for the function of university professor in 2008. His research interests include Markov modeling, Bayesian nets and probabilistic relational models, quantitative dependability and safety assessment of complex systems, cyber-security.