

15th International Workshop on “Dependable Smart Embedded and Cyber-Physical Systems and Systems-of- Systems” at SAFECOMP 2020 (DECSoS '20)

Lisbon virtual, Portugal, Sept. 15, 2020

Co-hosted by the ARTEMIS/ECSEL projects AQUAS, AutoDrive, Productive4.0, iDev40, AfarCloud
SECRETAS, ARROWHEAD-Tools and Comp4Drones

Erwin Schoitsch, AIT Austrian Institute of Technology
Amund Skavhaug, NTNU, Trondheim, Norway

Final Programme

Welcome and Introduction

09:00 – 09:20 ERCIM/EWICS/ARTEMIS DECSoS Workshop: European Research and Innovation Projects in the Field of Cyber-Physical Systems and Systems-of-Systems (Selective Overview);
by Erwin Schoitsch and Amund Skavhaug

Session 1: Model-based Safety Analysis

09:20 – 09:50 *Yuvaraj Selvaraj, Zhennan Fei and Martin Fabian*. Supervisory Control Theory in System Safety Analysis.

09:50 – 10:20 *Nobuaki Tanaka, Hisashi Yomiya and Kiyoshi Ogawa*. A method to support the accountability of safety cases by integrating safety analysis and model-based design.

10:20 – 10:40 Coffee Break

Session 2: Safety/Security/Privacy Systems Co-Engineering

10:40 – 11:10 *Nadja Marko, Alexandr Vasenev and Christoph Striecks*. Collecting and Classifying Security and Privacy Design Patterns for Connected Vehicles: SECRETAS Approach (Invited)

11:10 – 11:40 *Jabier Martinez, Jean Godot, Alejandra Ruiz, Abel Balbis and Ricardo Ruiz Nolasco*. Safety and Security Interference Analysis in the Design Stage.

11:40 – 12:10 *Ehsan Poorhadi, Elena Troubitsyna and György Dan*. Formalising the Impact of Security Attacks on IoT Safety.

12:10 – 13:10 Lunch Break

Session 3: Critical System Development and Validation

13:10 – 13:40 *Ramneet Kaur, Radoslav Ivanov, Matthew Cleaveland, Oleg Sokolsky and Insup Lee*. Assurance case patterns for cyber-physical systems with deep neural networks.

13:40 – 14:10 *Daniel Kästner, Christoph Cullmann, Gernot Gebhard, Sebastian Hahn, Thomas Karos, Laurent Mauborgne, Stephan Wilhelm and Christian Ferdinand*. Safety-Critical Software Development in C++.

14:10 – 14:40 *Michael Platzer and Peter Puschner*. An Instruction Filter for Time-Predictable Code Execution on Standard Processors.

14:40 – 15:00 Coffee Break

Session 4: Safety and Cybersecurity in Automotive Engineering

15:00 – 15:30 *Georg Macher, Christoph Schmittner, Omar Veledar and Eugen Brenner*. ISO/SAE DIS 21434 Automotive Cybersecurity Standard - In a Nutshell.

15:30 – 16:00 *Harrison Kurunathan, Ricardo Severino, Enio Filho, and Eduardo Tovar*. WiCAR - Simulating towards the Wireless Car.

16:00 – 16:30 *Lucie Langer, Arndt Bonitz, Christoph Schmittner and Stefan Ruehrup*. Automated Right of Way for Emergency Vehicles in C-ITS: An Analysis of Cyber-Security Risks.

16:30 – 16:40 Coffee Break

Session 5: Applications' Assurance of Security and Integrity

16:40 – 17:10 *Ronny Backmann, Ian Oliver and Gabriela Limonta*. Integrity Checking of Railway Interlocking Firmware.

17:10 – 17:40 *Reinhard Kloibhofer, Erwin Kristen and Luca Davoli*. LoRaWAN with HSM as a Security Improvement for Agriculture Applications.