

8:00 - 9:00 **Registration**

8:45-9:00 **Welcome address**

9:00-9:45 **Invited speech**

Challenges in Architecture for Self-driving Cars

Mathias Westlund

Systems and functions architect, Autonomous drive, Volvo Car Group.

9:45-10:35 **Session 1 – Autonomous vehicles**

(Session Chair: Rolf Johansson, SP Technical Research Institute of Sweden, Borås, Sweden)

Disarming the Trolley Problem – Why Self-driving Cars do not Need to Choose Whom to Kill.

Rolf Johansson (SP) and Jonas Nilsson (Volvo Cars), Sweden

Risk reduction of experimental autonomous vehicles: The Safety-Bag approach

Brini Manel, Crubille Paul and Lussier Benjamin (Université de Technologie de Compiègne), France

Q&A – discussion - 10min

10:35 - 11h00 **Break**

11:00 - 12:30 **Session 2 – Architecting automotive systems**

(Session Chair: Jean-Charles Fabre, LAAS-CNRS / INPT, Toulouse, France)

Service-based Modeling of Cyber-Physical Automotive Systems: A Classification of Services

Patrik Feth and Rasmus Adler (Fraunhofer IESE), Germany

Multiplexing Adaptive with Classic AUTOSAR? Adaptive Software Control to Increase Resource Utilization in Mixed-Critical Systems

Angeliki Kritikakou (IRISA), Claire Pagetti (ONERA), Christine Rochange (IRIT), Michael Lauer and Matthieu Roy (LAAS-CNRS), France

Domain-Specific Languages for the Definition of Automotive System Requirements

Florian Bock (Computer Science 7, FAU Erlangen), Sebastian Siegl (Audi AG) and Reinhard German (Computer Science 7, FAU Erlangen), Germany

Virtual Integration on the Basis of a Structured System Modelling Approach

Henrik Kaijser, Henrik Lonn and Peter Thorngren (Volvo Group), Sweden

Q&A – discussion - 10min

12:30 - 14h00 Lunch

14:00 - 15:30 **Session 3 – Safety analysis and robustness**

(Session Chair: Philippe Quéré, TCR, Renault SA, Paris, France)

Automotive Software Architecture Views and Why we need a new one -- Safety view

Mirosław Staron (University of Gothenburg), Sweden

Toward an MDD-based Analysis of Stateful and Variant-rich Automotive Functions

Michael Käßmeyer, Rüdiger Berndt (Audi AG), Peter Bazan and Reinhard German (Friedrich-Alexander-Universität, Erlangen-Nürnberg), Germany

Towards certification of software-intensive mixed-critical systems in automotive industry

Peter Reichenpfader, Florian Pölzbauer and Mario Driussi (Kompetenzzentrum - Das virtuelle Fahrzeug, Forschungsgesellschaft mbH), Austria

Automated Freedom from Interference Analysis for Automotive Software

Florian Leitner-Fischer (ZF TRW Automotive GmbH), Stefan Leue and Sirui Liu (University of Konstanz), Germany

Q&A – discussion - 10min

15:30 - 16h00 Break

16:00 - 17:30 Session 4 – Development process and techniques

(Session Chair: Mario Trapp, Fraunhofer IESE, Kaiserslautern, Germany)

Towards Shaping ISO 26262-compliant Resources for OSLC-based Safety Case Creation

Barbara Gallina, Julieth Patricia Castellanos Ardila (Mälardalen University) and Mattias Nyberg (Scania CV), Sweden

Towards Flexible and Dependable E/E-Architectures for Future Vehicles

Gereon Weiss, Philipp Schleiss and Christian Drabek (Fraunhofer ESK), Germany

Provisioning of Deterministic and Non-Deterministic Services for Vehicles: The Rubus Approach

Harold Lawson (Lawson Konsult AB), Saad Mubeen, Alessio Bucaioni, Jukka Mäki-Turja (Mälardalen University), John Lundbäck, Mattias Gålnander, Kurt-Lennart Lundbäck (Arcticus Systems), and Mikael Sjödin (Mälardalen University), Sweden

Academic-industrial Collaboration in the Vehicle Software Domain: Experiences and End-user Perspective

Saad Mubeen, Jukka Mäki-Turja (Mälardalen University), John Lundbäck, Mattias Gålnander, Kurt-Lennart Lundbäck (Arcticus Systems), Mikael Sjödin (Mälardalen University) and Harold Lawson (Lawson Konsult), Sweden

Q&A – discussion - 10min

18.00 – 19.00. Visit to ReVeRe - Chalmers Vehicle Research lab, Valdemar Noréns gata 12, Lindholmen.

ReVeRe is located a 10 min walk (750 m) from the Lindholmen Conference Center.
For directions, see <https://goo.gl/maps/74TL3m7n5462>