



The World's Leading Automotive  
Cyber Security Conference



# 19<sup>th</sup> HYBRID escar Europe

escar – Embedded Security in Cars

November 10 to 11, 2021  
Frankfurt, Germany & virtual



## The Venue

We are looking forward to welcoming you in Frankfurt, Germany. The 19th escar conference will take place at the

**House of Logistics and Mobility (HOLM) GmbH**  
Bessie-Coleman-Straße 7  
60549 Frankfurt am Main  
Germany



## Contact

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### Organiser:

isits AG International School of IT Security  
Huestr. 30, 44787 Bochum, Germany

## Tickets

### Student

on-site 299,00 EUR\*  
virtual 189,00 EUR\*

### Regular

on-site 899,00 EUR\*  
virtual 499,00 EUR\*

### Group

on-site 899,00 EUR\*  
virtual 499,00 EUR\*  
\*plus 19% VAT

## Sponsors



## Main Topics

- 2 keynote speakers, 3 invited talks
- 3 workshops
- Exchange of the most recent insights on Automotive Cyber Security
- Connect with international experts from industry, academia and government



[www.escar.info](http://www.escar.info)

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Organizer:



### Wednesday, November 10<sup>th</sup> 2021

**09:00 – 12:00 Workshop Session**

**What's next? Automotive security in the post-quantum era**  
Efstathia Katsigianni & Mesih Olumee

**UN R 155 and beyond: Measure, build, and improve your CSMS with the PROOF maturity model**  
Moritz Minzlaff & Jan Stölting

**Automotive Security Testing**  
Tobias Brennich

12:00 – 13:00 Lunch

#### Official begin of 19<sup>th</sup> escar Europe conference

**13:00 – 13:15 Chairman's welcome and opening address**

**13:15 – 14:00 Keynote**

**Automotive Security – Challenges and next steps**  
Elmar Schoch

#### Session I – Designing Secure Connected, Automated Vehicles

**14:00 – 14:30 Security for Connected Automated Cars**  
Frank Kargl & Sergej Japs

**14:30 – 15:00 Emerging AI Security Threats for Autonomous Cars – Case Studies**  
Manojkumar Parmar

**15:00 – 15:30 Can Fault Tolerance be used for embedded real-time cybersecurity?**  
Jean-Philippe Lemieux & Behrouz Poustchi

15:30 – 16:15 Coffee Break

**16:15 – 16:45 Invited talk**

**Challenges in Automotive Penetration Testing**  
Bastian Könings


#### Session II – Attacks and Pentesting

**16:45 – 17:15 PROBoter – Automating PCB Analysis Tasks to Support Penetration Tests of Embedded Systems**  
Fabian Weber


**17:15 – 17:45 EMFI for Safety-Critical Testing of Automotive Systems**  
Colin O'Flynn

**17:45 – 18:15 Monitoring Automotive Cyber Risks Throughout The Deep and Dark Web**  
Guy Molho


## Top Speaker




**Yasemin Acar**  
Research Group Leader | Research Professor  
Max Planck Institute for Security and Privacy |  
George Washington University




**Marina Moore**  
PhD Candidate  
NYU Tandon School of Engineering



**Srdjan Capkun**  
Professor  
ETH Zurich



**Elmar Schoch**  
BMW AG



**Bastian Könings**  
Managing Consultant  
SCHUTZWERK GmbH

### Thursday, November 11<sup>th</sup> 2021

**09:00 – 09:45 Keynote**

**Security of UWB Distance Measurement (with Application to Passive Keyless Entry and Start)**  
Srdjan Capkun

#### Session III – Automotive Security

**09:45 – 10:15 Structured Methodology and Survey to Evaluate Data Completeness in Automotive Digital Forensics**  
Kevin Gomez Buquerin

**10:15 – 10:45 Quantum Secure High Performance Automotive Systems**  
Daniel Sepulveda & Johanna Sepulveda

10:45 – 11:30 Coffee Break

**11:30 – 12:00 Invited Talk**

**Securing Over-the-air updates with Uptane**  
Marina Moore

#### Session IV – Secure Update and Secure Boot

**12:00 – 12:30 UniSUF: A Unified Software Update Framework for Vehicles utilizing Isolation Techniques and Trusted Execution Environments**  
Kim Strandberg

**12:30 – 13:00 Sliced Secure Boot – Sampled Secure Boot with Reusable Fingerprints**  
Robert Kaster

13:00 – 14:00 Lunch

**14:00 – 14:30 Invited Talk**

**Human Factors in Secure Development: How research can support developers in writing secure code**  
Yasemin Acar

#### Session V – Risk assessment and Modelling

**14:30 – 15:00 TRADE – Threat and Risk Assessment for Automotive Distributed Engineering**  
Alexander Kiening

**15:00 – 15:30 Risk Assessment according to the ISO/SAE 21434:2021 – Experiences, Help and Pitfalls**  
Thomas Liedtke

**15:30 – 16:00 Automation in Automotive Security by Using Attacker Privileges**  
Florian Sommer

**16:00 – 16:15 Outlook and closing remarks by the Chairman**