



# Protection of Children in Cars

December 1 – 3, 2021  
Online Conference

The  
Langwieder  
Conference



## The Conference

New mobility concepts, intermodality of transport and autonomous driving will influence the design and use of CRS and require continuous consumer information/education through safety campaigns. This will be one of the focal points of this year's conference.

As an international forum for child safety, the 19<sup>th</sup> International Conference will provide an overview of trends in safety regulations, of recent research results, product development and testing/rating procedures, taking into account the needs and trends not only in industrialized countries but globally.

Unfortunately, we will not be able to hold the conference on-site at TÜV SÜD in Munich again this year. However, we will hold a web conference to maintain the exchange of experience between child safety experts.

On the three conference days in the afternoon (CET) we offer sessions with presentations and discussions between speakers, chairpersons and the participants. In addition, the full papers will be available for download.

### **The conference is intended for**

- safety engineers and accident researchers
- experts in biomechanics, pediatricians, behavioral scientists
- representatives of rulemaking and consumer organizations
- promoters of safety campaigns
- specialists in vehicle and CRS rating systems
- scientists, working in the field of child safety

### **Conference language**

The Conference language will be English.

## Technical Notes for the Online Conference

### **Hardware**

To participate in the online conference you need a desktop PC, laptop or tablet. Headphones are an advantage. You may need a webcam and microphone for separate discussion forums (e.g. during breaks) where you can participate with video and audio. We use the Microsoft-Teams application for this purpose. In the lecture sessions you will participate in the discussion in writing.

### **Software**

Since a live online conference is played out on a dedicated internet page, a browser-based microsite, there is no need to download any special software or application in advance. A stable internet connection is required. In some cases, there may be problems with internet connections via VPN. In this case, please disconnect the VPN connection before dialling in. A full display and functionality of the microsite is guaranteed e.g. with the current Chrome browser. Older versions, such as Microsoft Internet Explorer, are not suitable.

### **Access Data**

All registered participants will receive an e-mail with a personalized access link to the microsite shortly before the event. You log in there directly with your personal link and have access to the presentation documents (download) and the live page (stream).



## Wednesday December 1, 2021

### 13:00\* **Welcome**

Philippe Lesire, LAB Peugeot Citroën Renault (FR)

### **New Mobility / Future Transport Challenges**

Chair: Stephan Schwald, AUDI AG (DE);

Kristy Arbogast, Children's Hospital of Philadelphia (US)

### 13:15 **Safer transport of children in buses and coaches**

Marta Anglès Torradeflot, Applus IDIADA Group (ES)

### 13:40 **Reclined seating – a simulation study using PIPER 6y**

Katarina Bohman, Sarah El-Mobader, Lotta Jakobsson,  
Volvo Cars Safety Centre (SE)

### 14:05 **The investigation of submarining in reclined child occupants in frontal crashes**

Hans Hauschild, John Humm, Medical College of Wisconsin;  
Jalaj Maheshwari, Children's Hospital of Philadelphia;  
Valentina Graci, Children's Hospital of Philadelphia and Drexel  
University (US)

14:30 Break

### **Standards and Rulemaking**

Chair: Farid Bendjellal, Britax, Childcare Group (DE);

Jessica Jermakian, Insurance Institute for Highway Safety (US)

### 15:30 **Updates of child restraint system regulation in China**

Andy Zhu, Goodbaby International Holdings Ltd; Weijing Li,  
China Automotive Technology and Research Center Co.;  
Bright Zhu, eqo Testing and Certification Co. (CN)

### 15:55 **Child restraint system is written into national legislation in China**

Tong Lihua, Zhang Chao, Beijing Children's Legal Aid and  
Research Center (CN)

### 16:10 **Analysis of head vertical excursion requirement for booster cushions in UN Regulation 129**

Marc Pitcher, Farid Bendjellal, Britax Childcare (DE)

### 16:35 **The effect of Q-Series dummy adaptation on the prevalence of chin-to-chest contact and its influence on upper neck tension force in UN Regulation No. 129 tests**

Costandinos Visvikis, Christoph Thurn, Thomas Müller,  
CYBEX GmbH (DE)

17:00 End of the Live Session of the first Conference Day

## Thursday December 2, 2021

### **Consumer Information**

Chair: Joachim Fausel, Daimler AG (DE);

Costandinos Visvikis, CYBEX GmbH (DE)

### 13:00 **Euro NCAP Child Occupant Protection – 2023 and beyond**

James Ellway, Euro NCAP (BE)

### 13:25 **Consumer Reports' Rear-Seat Safety test program**

Emily A. Thomas, Jennifer Stockburger, Consumer Reports (US)

13:50 Break

### **Test Procedures and Dummies**

Chair: Suzanne Tylko, Transport Canada (CA);

Bernd Lorenz, Bundesanstalt für Straßenwesen (DE)

### 14:30 **The Large Omni-directional Child (LODC) ATD: Status Update**

Jason Stammen,  
National Highway Traffic Safety Administration (NHTSA) (US)

### 14:55 **CRS testing on vehicle seats: Exploring beyond the regulatory bench**

Julie A. Mansfield, The Ohio State University (US)

### 15:20 **Sensitivity study of factors inside the Q10 2020 dummy influencing chest deflections**

Olaf van Leeuwen, Bernard Been, Apoorva Lakshminarayana,  
Humanetics Europe GmbH (NL/DE)

### 15:35 **CAE sensitivity study in realistic sled environment and its influence on Q10 2020 chest deflection responses**

Apoorva Lakshminarayana, Christian Brockhusen, Bernard Been,  
Olaf van Leeuwen, Humanetics Europe GmbH (NL/DE)

15:50 Break

### **Human Body Modeling**

Chair: Heiko Johannsen, Medizinische Hochschule Hannover;

Philipp Wernicke, BMW Group (DE)

### 16:30 **Analysis of 6YO pediatric human body model kinematics and kinetics to determine submarining across naturalistic seating postures**

Jalaj Maheshwari, Children's Hospital of Philadelphia;  
Gianna Slusher, Children's Hospital of Philadelphia and  
The Cooper Union for the Advancement of Science and Art (US)

### 16:55 **Parametric study of booster seat design characteristics**

Jason Forman, Matthew Miller, Daniel Perez-Rapela, Bronislaw  
Gepner, University of Virginia,  
Center for Applied Biomechanics; Marcy Edwards,  
Jessica Jermakian, Insurance Institute for Highway Safety (US)

17:30 End of the Live Session of the second Conference Day

Friday December 3, 2021

### Field Observations

Chair: Sjaan Koppel, Monash University (AU);

Philippe Lesire, LAB Peugeot Citroën Renault (FR)

13:00 **Child safety in Estonia: common problems, statistics and surveys**

Liis Sepp, Estonian Transport Administration

13:25 **Child restraint use in Sweden**

Sofia Bergfors, Helena Lundberg, Volvia; Lotta Jakobsson, Katarina Bohman, Volvo Cars Safety Centre (SE)

13:50 **Parental discourse on car alert systems: Are implications on car-seat safety a consideration?**

Elad Calif, Daniela Orr, Amir Falk, Beterem – Safe Kids Israel

14:05 Break

### Accident Research and Biomechanics

Chair: Prof. Dr. Lothar Wech, Technische Hochschule Ingolstadt;

Ralf Ambos, DEKRA Automobil GmbH (DE)

14:45 **Application of an Inertial Measurement Unit (IMU)-Based Motion Capture System for the quantification of child posture on belt-positioning booster seats**

Gretchen H. Baker, Julie A. Mansfield, Randee L. Hunter, John H. Bolte IV, the Ohio State University, Injury Biomechanics Research Center (US)

15:10 **Dynamic performance of child restraint systems – old and used restraints, and harnessed restraints for older children**

Tom Whyte, Nicholas Kent, Julie Brown, Lynne Bilston, Neuroscience Research Australia, The George Institute for Global Health, and The University of New South Wales (AU)

15:35 Break

15:45 **Panel discussion on accident data and data gathering**

Chair: Suzanne Tylko, Transport Canada (CA);

Heiko Johannsen, Medizinische Hochschule Hannover (DE)

16:15 **Resumé, outlook and farewell**

Philippe Lesire, LAB Peugeot Citroën Renault (FR)

16:30 **End of the Langwieder Conference 2021**



# Program Committee

- Dr. Reinhard Kolke,  
ADAC e.V. (DE)
- Stephan Schwald,  
AUDI AG (DE)
- Philipp Wernicke,  
BMW Group (DE)
- Bernd Lorenz,  
Bundesanstalt für Straßenwesen (DE)
- Farid Bendjellal,  
Britax Childcare (DE)
- Kristy Arbogast,  
PhD, Children's Hospital of Philadelphia (US)
- Costandinos Visvikis,  
CYBEX GmbH (DE)
- Joachim Fausel,  
Daimler AG (DE)
- Ralf Ambos,  
DEKRA Automobil GmbH (DE)
- Jessica Jermakian,  
Insurance Institute for Highway Safety (IIHS) (US)
- Prof. Dr. Koshiro Ono,  
Japan Automobile Research Institute (JP)
- Dr. Reiner Nett,  
Kegelman Technik GmbH (DE)
- Dr. Heiko Johannsen,  
Medizinische Hochschule Hannover (DE)
- Dr. Sjaan Koppel,  
Monash University (AU)
- Prof. Dr. Lothar Wech,  
Technische Hochschule Ingolstadt (DE)
- Jiří Socha, Ph.D.,  
TÜV SÜD Czech s.r.o. (CZ)

## Chairs

Philippe Lesire, LAB PSA Peugeot-Citroën / RENAULT (FR)  
Suzanne Tylko, Transport Canada (CA)



## Registration & Information

[www.tuvsud.com/akademie/protection-of-children-in-cars](http://www.tuvsud.com/akademie/protection-of-children-in-cars)

## For further information please contact:

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## Conference Registration Fee

660,00 € plus VAT (if applicable)

50 % discount for members of universities

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