

# EVU 2024

32th Annual Congress of the EVU, Kufstein, Österreich; 12. - 14.09.2024

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## Thursday, 12.09.2024

- 12:30 Opening Ceremony

### Session 1: From real-roads to virtual roads

- 13:10 Road2Sim - Transformation of Road Sections into a Virtual Environment Based on Ground Truth Measurement (*Prof. Peter Pfeffer, Prof. Markus Krug, Prof. Bernhard Schick, Krishnakumar Mayannavar, Daniel Schneider*)
- 13:30 3D accident reconstruction for traffic incident documentation using advanced Deep Learning approaches (*Enrico Pittini, Davide Castellucci, Filippo Begani, Salvatore Pisciotta*)
- 13:50 Comparative study of data collection techniques at road accident sites using photogrammetry: Drone, Leica BLK 3D, RedCatch (GNSS), Ground photogrammetry (*Philippe Somja, Yves Page*)
- 14:10 Video analysis and photogrammetry in accident analysis - uncommon case studies (*Michal Křížák, Dr. Albert Bradáč, Dr. Marek Semela, Dr. Pavel Maxera, Dr. Martin Bilík, Prof. Robert Kledus*)
- 14:30 Accuracy evaluation of 3D photogrammetry methods (*Dr. Klaus-Dieter Brösdorf, Dr. Andreas Moser*)

### Session 2: Reconstruction

- 15:20 Kinematics measurements on light single-track vehicles during acceleration and braking

*(Dr. Miha Ambrož, Prof. Robert Kunc, Jernej Korinšek, Dr. Jovan Trajkovski)*

- 15:40 Investigating Yaw Marks on Grass Surfaces for Vehicle Speed Reconstruction (*Jeroen Peters, Sander de Goede*)
- 16:00 Pole/Tree Impact Analysis (*Mark Paquette, Nicholas Young, Greg Prentice, Mark Fabbroni*)
- 16:20 The relationship between automobile impact speed and pedestrians and cyclists projection distance in crash tests (*Dr. Nenad Milutinovic, Dr. Nikola Radivojevic*)
- 16:40 Estimation of function vehicle velocity through a driving experiment for moving camera (*Dr. Paweł Grzegorz Dąbkowski*)

## **Friday 13.09.**

### **Session 3: EDRs, Sensors and Data (Part 1)**

- 09:00 Recording vehicle dynamics during driving maneuvers using modern smartphones and GoPro cameras and evaluation in PC-Crash (*Dr. Andreas Moser, Christian Hittinger, Julian Simader*)
- 09:20 Reconstruction of a high-speed accident with three vehicles involved using data from EDR (*Event Data Recorder*) and GoPro cameras (*Christian Hittinger, Dr. Andreas Moser*)
- 09:40 Selected results of the project Modern methods of documentation and analysis of vehicle damage (*Dr. Kateřina Bucsuházy, Dr. Martin Bilík, Dr. Roman Mikulec, Martin Rak, Pavlina Moravcová,*

Dr. Michal Belák, Michal Křížák, Dr. Marek Semela, Dr. Albert Bradáč, Jakub Motl, Robert Zůvala)

- 10:00 GPS systems in accident analysis - possibilities and limits (*Michael Plank, Andreas Moser*)

### **Session 4: EDRs, Sensors and Data (Part 2)**

- 10:50 Accuracy and Bias of Estimated Brake Onset from Onboard Video During Emergency Brake Events (*Thomas Flynn, Cole Young, Matthew Ahrens, Gunter Siegmund*)
- 11:10 The Airbag Control Unit: Master of Protection vs. Datarecorder (*Andreas Forster, Reinhart Weber*)
- 11:30 Correcting EDR data based on positional offset from vehicle main axes (*Florian Pirkner, Matthias Schmidt*)
- 11:50 Rolling shutter effect in a video recording of a lightboard (*Wojciech Wach*)

### **Session 5: Open Forum**

- 13:20 A novel test method for rapid evaluation of the mechanical integrity of battery modules (*Michael Salamon, Sven Kilian, Prof. Klaus Böhm*)
- 13:40 Challenges in Technical Inspection of Automated Vehicles EnvironmentalSensors (*Robin Langer, Dr. Tibor Kubjatko, Prof. Hans-Georg Schweiger*)
- 14:00 Advancing Car Insurance Fraud Detection: An Automated Deep-Learning Approach

*(Davide Castellucci, Enrico Pittini, Filippo Begani, Simone Orlando)*

- 14:20 In-Depth Investigation of E-Scooter Performance (*Victoria Eyers, Iwan Parry, Mohammed Zaid*)

## **Session 6: Biomechanics of impact**

- 15:10 HBM application in the analysis of road traffic accidents (*Prof. Robert Kunc, Dr. Jovan Trajkovski, Dr. Miha Ambrož*)
- 15:30 Accident reconstruction via analysis and reproduction of head injury patterns (*Dr. Ivan Colamartino, Dr. Pierangelo Adinolfi, Prof. Marco Anghileri*)

## **Saturday, 14.09.**

### **Session 7: ADAS and safety systems**

- 09:00 Brake Response Times of Autonomous Emergency Braking Systems (*Robert Taylor*)
- 09:20 Basic data on the behavior of partially automated driving functions when cornering for accident reconstruction (*Jessica Gut, Daniel Paula, Pavlos Triantafyllidis, Luigi Ancona*)
- 09:40 Partially automated driving functions in accident reconstruction (*Daniel Paula, Maximilian Bauder, Dr. Tibor Kubjatko, Prof. Hans-Georg Schweiger*)
- 10:00 Simulation model for analysing the avoidability of turning accidents involving VRUs with the integration of available active safety systems (*Stefanie Ritter, Andreas Baur, Frank Müller*)

### **Session 8: EDRs, Sensors and Data (Part 3)**

- 10:50 Navigating Pitfalls in Camera Calibration for Accident Reconstruction: A Focus on Luminance Measurement (*Max Gäde, Ganesh Kubina*)
- 11:10 Influence of pre-crash and in-crash joint motion of a pedestrian on results of numerical simulation using V-SIM 6.0. pedestrian model (*Daniel Wdowicz, Dariusz Bułka*)
- 11:30 Development of an Accident Reconstruction Method Using Cooperative Awareness Message Data (*Maximilian Bauder, Dr. Tibor Kubjatko, Prof. Hans-Georg Schweiger*)
- 11:50 [On the assessment of visual perceptibility using digital cameras](#) (*Wolfgang Hugemann, Prof. Henrik Zöller*)
- 12:10 Clarification of an intersection accident with traffic lights using eCall data (*Hannes Glaser*)

## **Awards**

- Bestes Paper: Andreas Moser
- Bester Vortrag: Michael Salamon