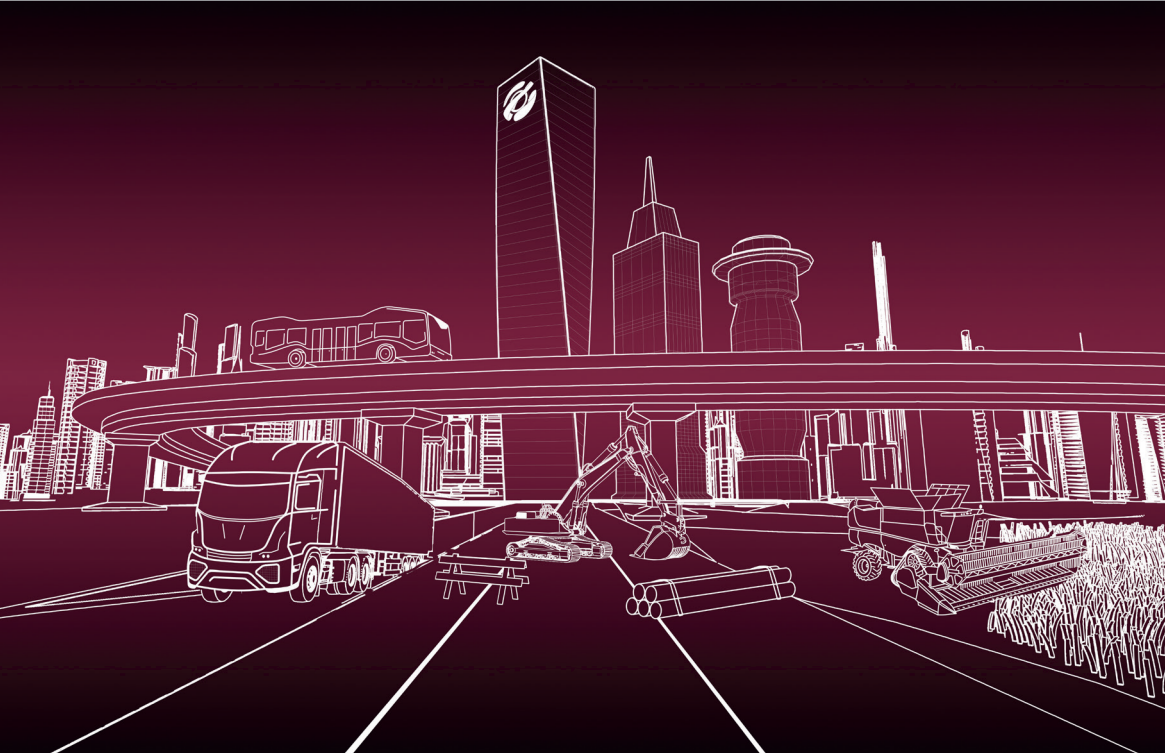# 8th International Commercial Vehicle Technology Symposium Kaiserslautern

March 13-14, 2024
University Kaiserslautern-Landau

commercial vehicle alliance
kaiserslautern

PROGRAM OVERVIEW

Wednesday, march 13, 2024

| 9:00 | **Opening and welcome**
 Keynote | room 115 |

| 10:00 | **Exhibition and Coffee break** | lobby |

| 10:45 | **Simulation Methods (1)**
 Presentations see page 4 | room 110 | **Alternative propulsion technologies (1)**
 Presentations see page 4 | room 115 |

| 12:00 | **Exhibitor presentation** | lobby |

| 12:45 | **Lunch break** | lobby |

| 13:45 | **Safety, Reliability and Durability**
 Presentations see page 4 | room 110 | **Connected and integrated systems and services**
 Presentations see page 4 | room 115 |

| 15:30 | **Vehicle presentation** | lobby |

| 16:15 | **Exhibition and Coffee break** | lobby |

| 16:45 | **Innovative Development and Production Methods (1)**
 Presentations see page 5 | room 115 |

| 19:00 | **Conference dinner** | city |

| 8:30 | **Welcome & Review** | room 115 |

| 8:45 | **Assisted and Automated Driving and Working**
 Presentations see page 5 | room 115 |

| 10:00 | **Exhibition, Poster presentation and Coffee break** | lobby |

| 11:00 | **Simulation Methods (2)**
 Presentations see page 5 | room 110 | **Innovative Development and Production Methods (2)**
 Presentations see page 5 | room 115 |

| 12:15 | **Exhibition and Lunch break** | lobby |

| 13:45 | **Alternative propulsion technologies (2)**
 Presentations see page 5 | room 115 |

| 15:00 | **Final plenary session** | room 115 |

PRESENTATIONS

Wednesday, march 13, 2024

	SIMULATION METHODS (1)	room 110
10.45 **-** **12.00**	AI-based Surrogate Modeling for Highly Efficient Soil-Tool Simulation	*Emmerich; Harutyunyan; Steidel; Burger (Fraunhofer ITWM)*
	Efficient HiL-Test Generation for Electric Heavy-Duty Drivetrains using Model-Based Systems Engineering	*Mennicken (RWTH Aachen)*
	Cascading of feasible tyre characteristics of tyre design specifications using a tyre resizing tool	*Lidberg[1]; Li[2] ([1] Fraunhofer Chalmers Centre; [2] Volvo Cars Corporation)*

	ALTERNATIVE PROPULSION TECHNOLOGIES (1)	room 115
10.45 **-** **12.00**	Potenziale und Herausforderungen wasserstoffbetriebener Baumaschinen	*Trommler; Hänel; Will (TU Dresden)*
	Energieeffiziente und verschleißoptimierte Betriebsstrategien für Sonder- und Nutzfahrzeuge mit Brennstoffzellenantrieb	*Ufert; Singaravelan; Steinert (Fraunhofer IVI)*
	Mercedes-Benz eCitaro fuel cell: mehr Reichweite ohne Nachladen dank Brennstoffzelle	*Javed (Daimler Buses)*

	SAFETY, RELIABILITY AND DURABILITY	room 110
13.45 **-** **15.30**	Dynamic Risk Assessment for Automated Driving System using Artificial Neural Network	*Patel[1]; Gorasiya[1]; Liggesmeyer[1,2] ([1] RPTU Kaiserslautern-Landau; [2] Fraunhofer IESE)*
	Extended Language Server Support for Robotics Frameworks	*Klaaßen; Meckel; Berns (RPTU Kaiserslautern-Landau)*
	Active perception and monitoring of data quality to increase the sensing performance of autonomous off-road robots	*Wolf[1]; Berns[2] ([1] Fraunhofer IESE; [2] RPTU Kaiserslautern-Landau)*
	Tree-SLAM: Localization and Mapping in Dense Forest Environments for Autonomous Vehicles	*Heupel[1]; Wolf[2]; Berns[1] ([1] RPTU Kaiserslautern-Landau; [2] Fraunhofer IESE)*

	CONNECTED AND INTEGRATED SYSTEMS AND SERVICES	room 115
13.45 **-** **15.30**	Prediction of energy consumption in road transport by simulation of the vehicle's field of application and its performance	*Biedinger; Christiansen; Dahlheimer; Halfmann; Speckert; Wagner (Fraunhofer ITWM)*
	AI-based vehicle activity recognition using telemetry data	*Burger[1]; Fiedler[1]; Jansen[2]; Kickertz[2]; Kleeberg[2]; Philippi[2] ([1] Fraunhofer ITWM; [2] Volvo CE)*
	The (important) Role of Digital Twins and AI Methods within Predictive Maintenance Strategies	*Baur; Teutsch (RPTU Kaiserslautern-Landau)*
	Open APIs in the era of the software-defined commercial vehicle	*Tanimou; Achtzehn; Stumpf; Henkel; Muenzenmay (Robert Bosch)*

INNOVATIVE DEVELOPMENT AND PRODUCTION METHODS (1)		room 115
16.45 - 18.00	Multidisciplinary design optimization of electric truck motors with additively manufactured hairpin winding	*Umland[1]; Winkler[1]; Kutter[2]; Jung[3] ([1]Fraunhofer IFAM; [2]BPW Bergische Achsen; [3]Additive Drives)*
	Konstruktionsmethodische Synthese der additiven Fertigung und des Tailored-Fiber-Placements zur Lasteinleitung in FKV-Bauteile	*Rupp[1]; Al-Zuhairi[1]; Teutsch[1]; Nagaraj[2]; Pfaff[2]; Motsch[2]; Digel[3] ([1]RPTU Kaiserslautern-Landau; [2]Leibniz-Institut für Verbundwerkstoffe; [3]Digel Sticktech*
	Simulation and testing of Hybrid Load-bearing Structures for Lightweight Construction in Vehicles	*Nagaraj (Leibniz-Institut für Verbundwerkstoffe)*

ASSISTED AND AUTOMATED DRIVING AND WORKING		room 115
08.45 - 10.00	Fahrerassistenz und Teleoperation, technische Lösungen als Antwort auf Marktanforderungen	*Hofmann (Liebherr Hydraulikbagger)*
	Full Virtual Workflow to support Automation & Autonomy Applications for Commercial Vehicles including AI	*Eichhorn[1]; Höh[1];Gumaste[2]; Vaidya[2] ([1]John Deere ETIC; [2]John Deere India)*
	Kollisionsverhinderungssystem für schemelgelenkte Tandemwalzen	*Telschow (BOMAG)*

SIMULATION METHODS (2)		room 110
11.00 - 12.15	Effiziente Entwicklungsprozesse für optimale Nutzfahrzeug-Antriebslösungen durch durchgängigen Einsatz skalierbarer Simulationsmodelle	*Scherpelz; Baumann; Horn; Glückler (ZF Friedrichshafen)*
	Cloud-Based Identification of Dynamic Trailer States	*Burger[1]; Holfeld[1]; Steidel[1,2]; Bartolozzi[3]; Möller[3]; Kobler[4]; Weßel[4]; Brand[4] ([1]Fraunhofer ITWM; [2]Hochschule Kaiserslautern; [3]Fraunhofer LBF; [4]BPW Bergische Achsen)*
	Workflows für die virtuelle Absicherung von autonomen Nutzfahrzeugen in der Cloud	*Bilgic Istoc (IPG Automotive)*

INNOVATIVE DEVELOPMENT AND PRODUCTION METHODS (2)		room 115
11.00 - 12.15	Truck Seat – Strategy for a Green Product	*Paruchuri; Stuiber (Grammer)*
	Lasttragende Leichtbau-Wasserstofftanks zur optimalen Bauraumausnutzung im Nutzfahrzeug	*Motsch-Eichmann; Pfaff; Hausmann (Leibniz-Institut für Verbundwerkstoffe)*
	Functional Safety in the Development Process of Mobile Cranes	*Schneider (Tadano Demag)*

ALTERNATIVE PROPULSION TECHNOLOGIES (2)		room 115
13.45 - 15.00	Die nächste Generation der Elektromobilität bei Daimler Truck	*Lehmann (Daimler Truck)*
	Vergleich gemischansaugender und luftansaugender Biopropan-Diesel Dual-Fuel Brennverfahren	*Müller; Günthner (RPTU Kaiserslautern-Landau)*
	Practical and Customer-oriented electrification of agricultural tractors	*Rajani; Reiter (John Deere)*

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SIMULATIONS- UND
SOFTWARE-BASIERTE
INNOVATION

Center for Commercial Vehicle Technology
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RPTU Kaiserslautern-Landau

Commercial Vehicle Cluster -
Nutzfahrzeuge GmbH (CVC)

High Performance Center Simulation and
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